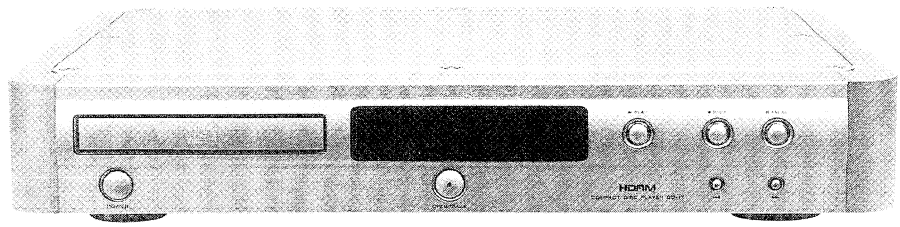
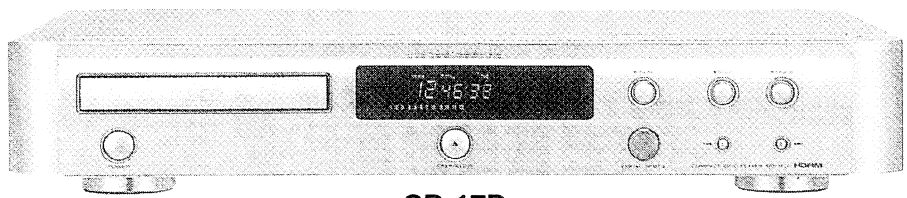
Service Manual

74 CD17/ 01B/02B/02G
CD-17/ DFN/FB/FN/KBL/KGL
Compact disc player



CD-17



CD-17D

COMPACT disc DIGITAL AUDIO

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Please use this service manual with referring to the user guide (D,.F.U.) without fail.
修理の際は、必ず取扱説明書を準備し操作方法を確認の上作業を行ってください。
又、六角棒スパナNO. 1.5が必要です。

marantz®

model CD-17

4822 725 51103

First issue : 1995/10

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PCS 86 410

MARANTZ DESIGN AND SERVICE

Using superior design and selected high grade components, **MARANTZ** company has created the ultimate in stereo sound. Only original **MARANTZ** parts can insure that your **MARANTZ** product will continue to perform to the specifications for which it is famous.

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1. Complete address
2. Complete part numbers and quantities required
3. Description of parts
4. Model number for which part is required
5. Way of shipment
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SHOCK, FIRE HAZARD SERVICE TEST:

CAUTION: After servicing this appliance and prior to returning to customer, measure the resistance between either primary AC cord connector pins (with unit NOT connected to AC mains and its Power switch ON), and the face or Front Panel of product and controls and chassis bottom.

Any resistance measurement less than 1 Megohms should cause unit to be repaired or corrected before AC power is applied, and verified before it is return to the user/customer.

Ref. UL Standard NO.1492.

In case of difficulties, do not hesitate to contact the Technical Department at above mentioned address.

1. TECHNICAL SPECIFICATIONS

オーディオ特性

チャンネル 2チャンネル
周波数特性 ..... 2Hz～20,000Hz, ±0.3dB
ダイナミックレンジ 98dB以上
S/N比 110dB
チャンネルセパレーション 103dB (1kHz)
高調波歪率 0.0015% (1kHz)
ワウフラッター ..... 水晶精度
誤り訂正方式 ..... クロスインターリーブリード・ソロモンコード (CIRC)
音声出力 ..... 2.2V RMSステレオ
デジタル出力 ..... ピンジャック 0.5Vp-p 75Ω
＊角型光コネクター　光出力　−19dBm
＊デジタル入力
角型光コネクター　光出力　−19dBm (フロント、リア)

光学読み取り方式

レーザー ..... A1GaAs 半導体
波長 780nm

信号方式

サンプリング周波数(CD モード) 44.1kHz
＊(D/A モード) 32/44.1/48kHz
量子化 ..... 16ビットリニア / チャンネル

電源部

電源 ..... AC 100V 50/60Hz
消費電力 (電気用品取締法) 15W

キャビネット・その他

最大外形寸法 (幅×高さ×奥行き) ..... 458×83×315mm
質量 7.8kg
許容動作温度 ..... +0.5℃ ～+35℃
許容動作湿度 ..... 5～90% (結露のないこと)

付属品

＊リモートコントロール送信機 (RC-D17CD) 1
＊外形寸法 (幅×高さ×奥行き) ..... 44×17.5×239mm
＊質量(電池なし) 175g
＊単四電池(SUM-4) 2個
リモートコントロール送信機 (RC-63CD) 1
外形寸法 (幅×高さ×奥行き) ..... 55×18×194mm
質量(電池なし) 63g
単三電池(SUM-3) 2個
RCAピンコード 1組

＊：CD-17DF タイプ
本機の規格および外観は改良のため予告なく変更することがありますのでご了承ください。

Audio Characteristics

Channels ..... 2 channels
Sampling frequency ..... 44.1 kHz
Quantization ..... 16-bit linear/channel
Error correction ..... Cross-interleave read solomon code (CIRC)
D/A conversion ..... 1-bit linear/channel
Wow & flutter ..... Precision of quarts

Optical Readout System

Laser ..... CaAlAs semiconductor
Wavelength ..... 780 nm

Frequency Characteristics

Frequency range ..... 5 Hz ~ 20 kHz
Dynamic range ..... > 98 dB
S/N ratio ..... > 106 dB
Channel separation (1 kHz) ..... > 100 dB
THD (1 kHz) ..... 0.0015 %
Analog output
Output level (cinch JACKS) ..... 2.2 V RMS
Output impedance ..... 250 ohms
Digital output
Output level (cinch JACK) ..... 0.5 Vp-p/75 ohms

Power Supply

Power requirement
/01 version ..... 115 / 230 AC 50/60 Hz
/02 version ..... 230 AC 50 Hz
K version ..... 110 / 220 AC 50/60 Hz
Power Consumption ..... 15 W

Cabinet, etc.

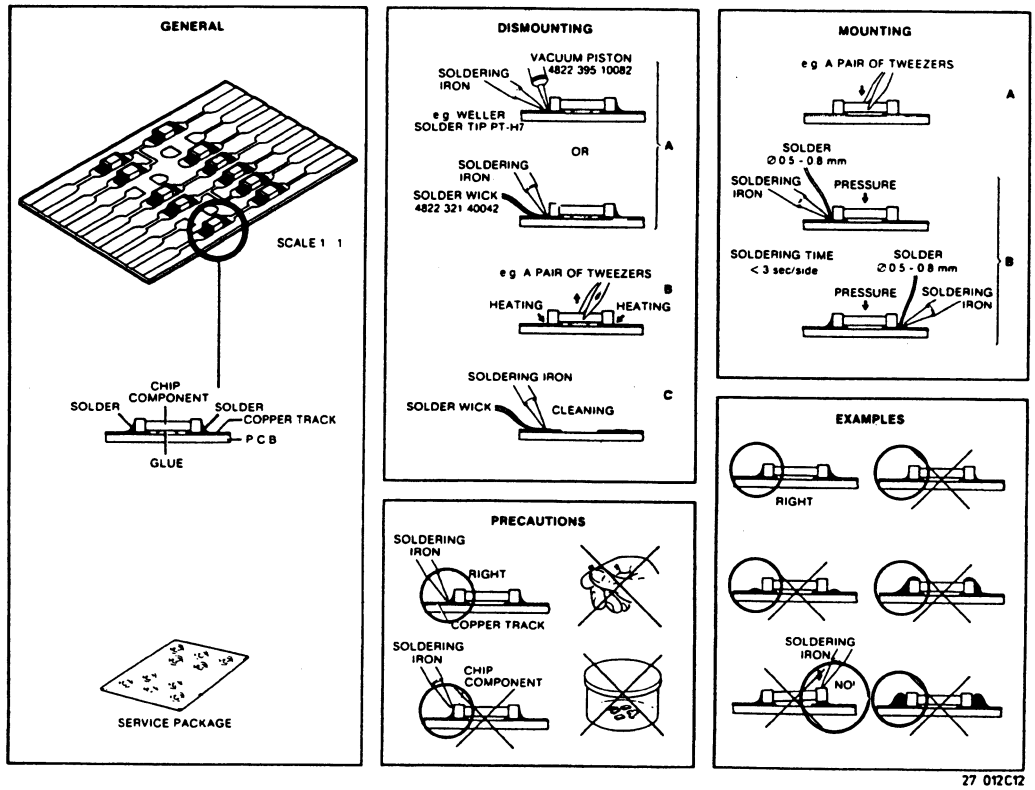
Dimensions
Width ..... 458 mm
Height ..... 83 mm
Depth ..... 313 mm
Netweight ..... 7.8 kg
Operating temperatures ..... +5 °C ~ +35 °C
Operating humidity ..... 5 % ~ 90 % (without dew)

Accessories

Remote control unit (RC-63CD) 1
AA (R6) Batteries 2
Stereo audio cable with cinch pins 1

Improvement may result in changes in specifications and design without notice.

2. SERVICING HINTS



CAUTION
VARO!
VARNING
ADVERSEL
DANGER
VORSICHT

INVISIBLE LASER RADIATION WHEN OPEN. AVOID EXPOSURE TO BEAM.
AVATTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER SÄTTEILYLLE ÄLÄ KATSO SÄTEESEN.
OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD BETRAKTA EJ STRÅLEN.
USYNLIG LASERSTRÅLING VED ÅBNING. UNDGÅ UNSAETTELSE FOR STRÅLING.
INVISIBLE LASER RADIATION WHEN OPEN. AVOID DIRECT EXPOSURE TO BEAM.
UNSICHTBARE LASERSTRAHLUNG WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

3. SERVICE TOOLS

Audio signals disc	4822 397 30184
Disc without errors (SBC444)+	
Disc with DO errors, black spots and fingerprints (SBC444A)	4822 397 30245
Disc (65 min 1kHz) without no pause	4822 397 30155
Max. diameter disc (58.0 mm)	4822 397 60141
Torx screwdrivers	
Set (straight)	4822 395 50145
Set (square)	4822 395 50132
13th order filter	4822 395 30204
Hexagon socket screw button (No. 1.5)	

4. サービスモード

1. サービスモードへの入り方
・ [STOP]、[PLAY]、[OPEN/CLOSE] ボタンの３つを押して電源を入れる。
2. モード０　（表示　Ｐ　００）
状態：[FOCUS OFF] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]
・ [CUE] / [REVIEW] ボタンを押すとスレッドが外周へ移動します。（リモコンにて）
・ [NEXT] ボタンを押すとモード１へ移行します。
3. モード１　（表示　Ｐ　０１）
状態：[FOCUS ON] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]
・ [NEXT] ボタンを押すとモード２へ移行します。
・ [PREV] ボタンを押すとモード０へ移行します。
4. モード２　（表示　Ｐ　０２）
状態：[FOCUS ON] [SPINDLE ON] [RADIAL OFF] [MUTE ON]
・ [NEXT] ボタンを押すとモード３へ移行します。
・ [PREV]ボタンを押すとモード０へ移行します。
5. モード３　（表示　Ｐ　０３）
状態：[FOCUS ON] [SPINDLE ON] [RADIAL ON] [MUTE OFF]
・ [CUE] ボタンを押すとスレッドが外周へ移動します。（リモコンにて）
・ [REVIEW] ボタンを押すとスレッドが内周へ移動します。（リモコンにて）
・ [PREV] ボタンを押すとモード２へ移行します。

＊ サービスモードの全ての状態で以下のボタンが有効です。
1) [STOP] ボタンを押すとFLが全点灯します。
2) [PAUSE] ボタンを押すとモデル番号とバージョンを

Cd 17 : 10
　　└── プロセッサーバージョン番号
　└── モデル番号

表示します。
3) [PLAY] ボタンを押すと通常（サービスモード以外）と同じ動作となります。
ただし、異常が確認された時にエラー番号が表示されます。（例：Err 10）
右の表を参考にしてください。

6. サービスモードの解除
・ 電源を切るとサービスモードが解除されます。

4. SERVICE MODE

1. How to enter into the Service Mode
- Turn the power on while pressing 3 of [STOP], [PLAY], [OPEN/CLOSE] buttons.

2. Mode 0 (Display P 00)
Condition: [FOCUS OFF] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]
- The sled moves outside when pressing [CUE]/[REVIEW] buttons. (From Remocon)
- The function moves to Mode 1 when pressing [NEXT] button.

3. Mode 1 (Display P 01)
Condition: [FOCUS ON] [SPINDLE OFF] [RADIAL OFF] [MUTE ON]
- The function moves to Mode 2 when pressing [NEXT] button.
- The function moves to Mode 0 when pressing [PREV] button.

4. Mode 2 (Display P 02)
Condition: [FOCUS ON] [SPINDLE ON] [RADIAL OFF] [MUTE ON]
- The function moves to Mode 3 when pressing [NEXT] button.
- The function moves to Mode 0 when pressing [PREV] button.

5. Mode 3 (Display P 03)
Condition: [FOCUS ON] [SPINDLE ON] [RADIAL ON] [MUTE OFF]
- The Sled moves outside when pressing [CUE] button. (From Remocon)
- The Sled moves inside when pressing [REVIEW] button. (From Remocon)
- The function moves to Mode 2 when pressing [PREV] button.

* The following button operation can be available at all of the conditions of the service mode.
1) All of FL display light by pressing [STOP] button.
2) Model Number and Version Nbr of the μ-processor are displayed by pressing [PAUSE] button.

Cd17 : 10
　　└──── μ-Processor Version Nbr.
　└── Model Name

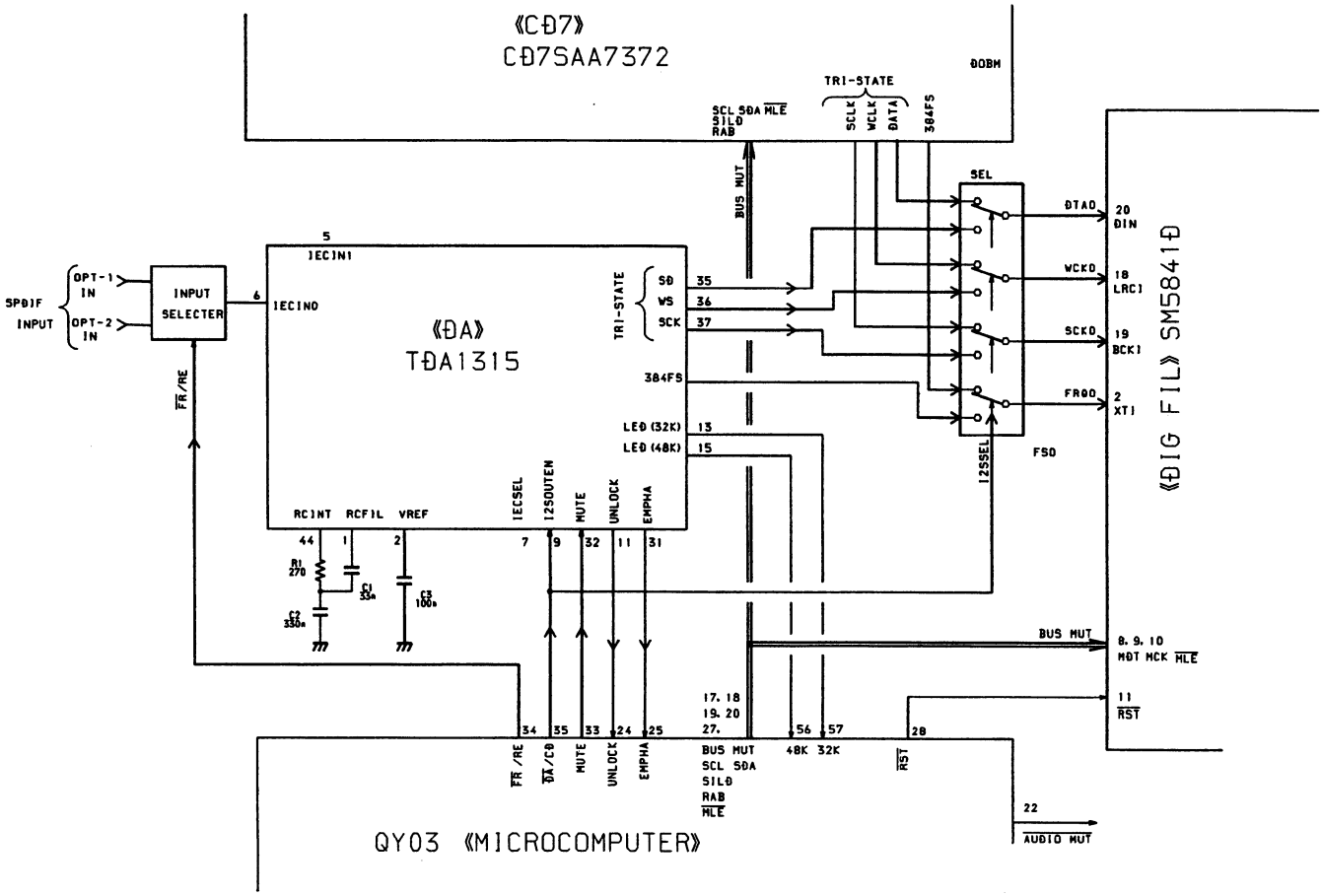
3) The same as Normal operation (except Service mode) is performed by pressing [PLAY] button.
However if some default is detected, an error code is displayed. (For example: Err 10)
The content for each error code is shown below.

Error Code	Error
Err 02	FOCUS Error
Err 07	SUB CODE Error
Err 08	T. O. C. Error
Err 09	DECODER Error
Err 10	REDIAL Error
Err 11, 12	SLED Error
Err 13	SPINDLE Error
Eff 16 ~ 20	SEARCH Error
Err 30	DOOR Error
Err 31	TRAY Error
Err 32 ~ 47	BUTTON INPUT Error

6. Cancelling the Service Mode
- The Service Mode is cancelled by turning the power off.

5. TDA1315 STAND-ALONE MODE

BLOCK DIAGRAM



切り替え動作によるミュート、ならびにリセットの動作。

1、モード (CD・DA) ならびにOPT切り替え時ソフトミュートをセット。
AUDIO MUTはこのモード切り替え動作時アナログ回路のミューティングをON、OFF。
(モード切り替え動作信号 (CD・DA) のソフトミュートをセットする、下図参照。)

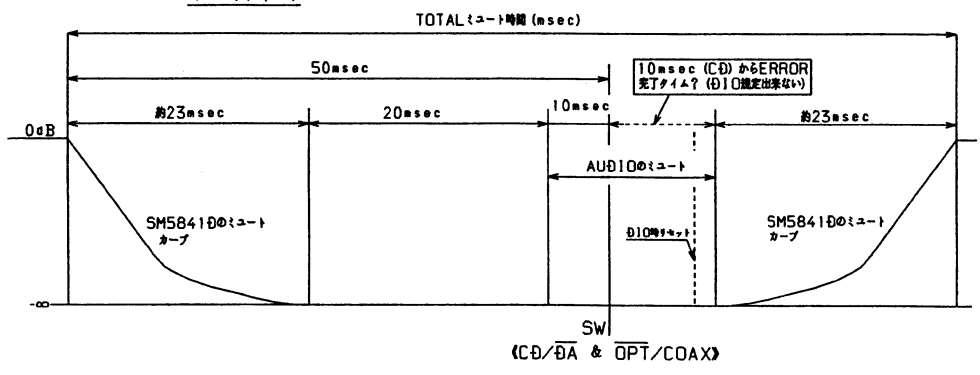
MUTEとBUS MUTの意味は下記とする。
MUTE: DA (TDA1315) のミュートON、OFF

2, SM5841DのRST (リセット) はCD・DA切り替え時とOPT切り替え時発生する。
CDモードになる時は切り替えと同一タイミングでRST (リセット) が発生、DAに切り替えた時は
TDA1315 (UNLOCK=ERROR) の信号がｈｉｇｈになってから発生する。(常にUNLOCK信号をチェックし信号がｈｉｇｈになったその都度にRST (リセット) を発生させる。)

3、UNLOCK信号がLOW (ERROR) になっている区間はソフトミュートON。

4、下記にそのチャートを示す。

ミュートチャート



6. MICROPROCESSOR AND IC DATA

• Q101 TDA1302T

SYMBOL	PIN	DESCRIPTION
O4	1	output of diode current amplifier 4
O6	2	output of diode current amplifier 6
O3	3	output of diode current amplifier 3
O1	4	output of diode current amplifier 1
O5	5	output of diode current amplifier 5
O2	6	output of diode current amplifier 2
LDON	7	control pin for switching the laser ON and OFF
V_{DDL}	8	laser supply voltage
RFE	9	equalized output voltage of sum signal of amplifiers 1 to 4
RF	10	unequalized output
HG	11	control pin for gain switch
LS	12	control pin for speed switch
CL	13	external capacitor
ADJ	14	reference input normally connected to ground via a resistor
GND	15	0 V supply; substrate connection (ground)
LO	16	current output to the laser diode
MI	17	laser monitor diode input
V_{DD}	18	amplifier supply voltage
I2	19	photo detector input 2 (central)
I5	20	photo detector input 5 (satellite)
I1	21	photo detector input 1 (central)
I3	22	photo detector input 3 (central)
I6	23	photo detector input 6 (satellite)
I4	24	photo detector input 4 (central)

• Q106/Q107/Q108 TDA7073A

SYMBOL	PIN	DESCRIPTION
IN1−	1	negative input 1
IN1+	2	positive input 1
n.c.	3	not connected
n.c.	4	not connected
V_P	5	positive supply voltage
IN2+	6	positive input 2
IN2−	7	negative input 2
n.c.	8	not connected
OUT2+	9	positive output 2
GND2	10	ground 2
n.c.	11	not connected
OUT2−	12	negative output 2
OUT1−	13	negative output 1
GND1	14	ground 1
n.c.	15	not connected
OUT1+	16	positive output 1

• QS01 PC74HC257

PIN NO.	SYMBOL	NAME AND FUNCTION
1	S	common data select input
2, 5, 14, 11	$1I_0$ to $4I_0$	data inputs from source 0
3, 6, 13, 10	$1I_1$ to $4I_1$	data inputs from source 1
4, 7, 12, 9	1Y to 4Y	3-state multiplexer outputs
8	GND	ground (0 V)
15	$\overline{OE}$	3-state output enable input (active LOW)
16	V_{CC}	positive supply voltage

• Q102 SAA7372GP

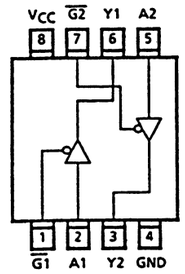
SYMBOL	PIN	DESCRIPTION
$V_{SSA}1$	1	analogue supply*
$V_{DDA}1$	2	analogue supply*
D1	3	unipolar current input (central diode signal input)
D2	4	unipolar current input (central diode signal input)
D3	5	unipolar current input (central diode signal input)
V_{RL}	6	reference input for ADC
D4	7	unipolar current input (central diode signal input)
R1	8	unipolar current input (satellite diode signal input)
R2	9	unipolar current input (satellite diode signal input)
IREFT	10	current reference for calibration ADC
V_{RH}	11	reference output from ADC
$V_{SSA}2$	12	analogue supply*
SELPLL	13	selects whether internal clock multiplier PLL is used
ISLICE	14	current feedback from data slicer
HFIN	15	comparator signal input
$V_{SSA}3$	16	analogue supply*
HFREF	17	comparator common mode input
IREF	18	reference current pin (nominally $V_{DD}/2$)
$V_{DDA}2$	19	analogue supply*
TEST1	20	test control input; this pin should be tied LOW
CRIN	21	crystal/resonator input
CROUT	22	crystal/resonator output
TEST2	23	test control input; this pin should be tied LOW
CL16	24	16.9344 MHz system clock output
CL11	25	11.2896 MHz clock output
RA	26	radial actuator output
FO	27	focus actuator output
SL	28	sledge control output
TEST3	29	test control input; this pin should be tied LOW
$V_{DD}1_P$	30	digital supply periphery*
DOBM	31	bi-phase mark output (externally buffered) (tri-state)
$V_{SS}1$	32	digital supply*
MOTO1	33	motor out 1 - versatile (tri-state)
MOTO2	34	motor out 2 - versatile (tri-state)
SBSY	35	subcode byte sync (tri-state)
SFSY	36	subcode frame sync (tri-state)
RCK	37	subcode clock input
SUB	38	P to W subcode bits (tri-state)
$V_{SS}2$	39	digital supply*
V5	40	versatile output pin
V4	41	versatile output pin
V3	42	versatile output pin (open drain)
KILL	43	kill output - programmable (open drain)
MISC	44	general purpose DAC output (tri-state)
DATA	45	serial data output (tri-state)
WCLK	46	word clock output (tri-state)
$V_{DD}2_P$	47	digital supply periphery*
SCLK	48	serial bit clock output (tri-state)
$V_{SS}3$	49	digital supply*
CL4	50	4.2336 MHz µP clock output
SDA	51	µP interface data I/O line (open drain output)
SCL	52	µP interface clock line
RAB	53	µP interface R/W and load control line (decoder part)
SILD	54	µP interface R/W and load control line (servo part)
N/C	55	No connection
$V_{SS}4$	56	digital supply*
RESET	57	power-on reset input (active low)
STATUS	58	request line/status register output (open drain)
$V_{DD}3_C$	59	digital supply core*
C2FAIL	60	indication of correction failure (open drain)
CFLG	61	correction flag output (open drain)
V1	62	versatile input pin
V2	63	versatile input pin
LDON	64	laser drive on output (open drain)

* Note: All supply pins must be connected to the same external power supply voltage.

• Q306 TC7W125FU

INPUTS		OUTPUTS
G	A	Y
H	X	Z
L	L	L
L	H	H

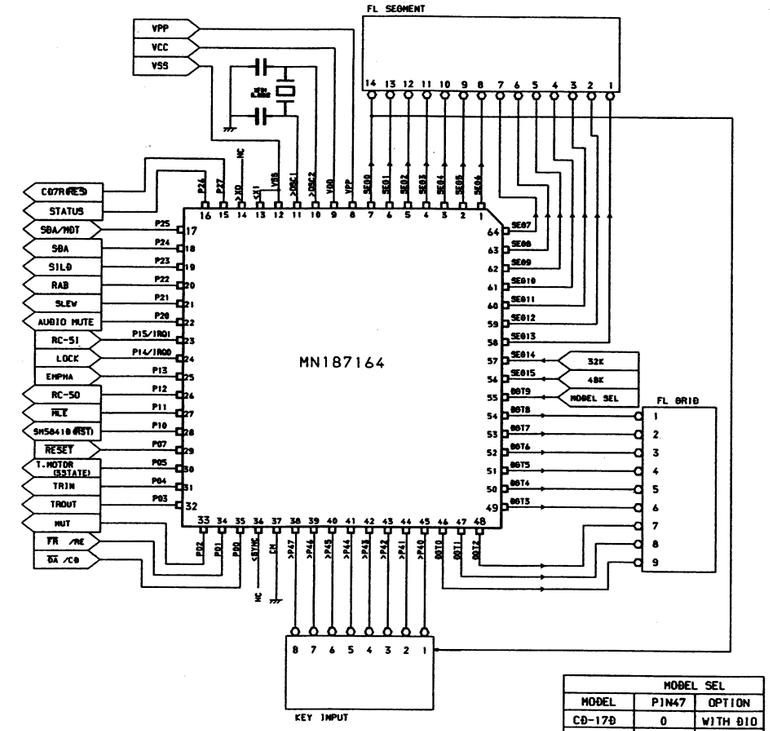
X : Don't Care
Z : High Impedance



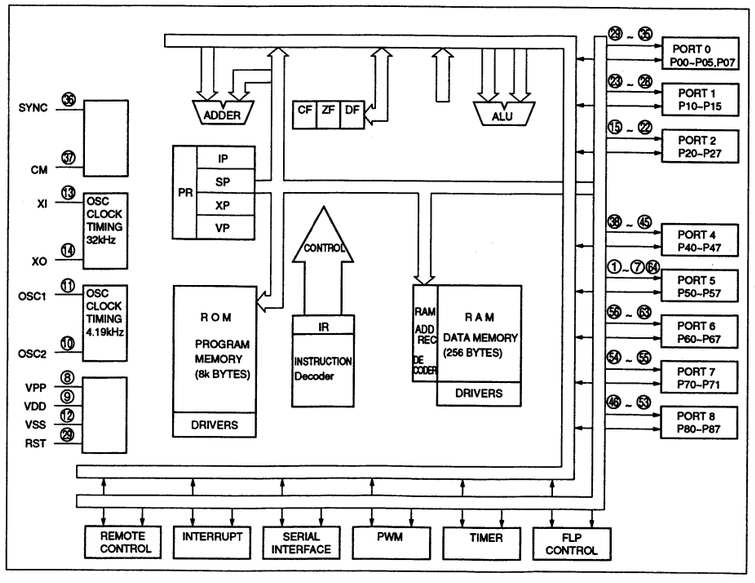
• Q307 TDA1315H

SYMBOL	PIN	PADCELL	DESCRIPTION
RC_{fil}	1	E029	PLL loop filter input
V_{ref}	2	E029	decoupling internal reference voltage output
V_{DDA}	3	E008	analog supply voltage
V_{SSA}	4	E004	analog ground
IECIN1	5	E007	high sensitivity IEC input
IECIN0	6	IPP04	TTL level IEC input
IECSEL	7	IUP04	select IEC input 0 or 1 (0 = IECIN0; 1 = IECIN1); this input has an internal pull-up resistor
IECO	8	OPFH3	digital audio output for optical and transformer link
IECOEN	9	IUP04	digital audio output enable (0 = enabled; 1 = disabled/3-state); this input has an internal pull-up resistor
TESTB	10	IPP04	enable factory test input (0 = normal application; 1 = scan mode)
TESTC	11	IPP04	enable factory test input (0 = normal application; 1 = observation outputs)
UNLOCK	12	OPP41A	PLL out-of-lock (0 = not locked; 1 = locked); this output can drive an LED
$\overline{FS32}$	13	OPP41A	indicates sample frequency = 32 kHz (active LOW); this output can drive an LED
$\overline{FS44}$	14	OPP41A	indicates sample frequency = 44.1 kHz (active LOW); this output can drive an LED
$\overline{FS48}$	15	OPP41A	indicates sample frequency = 48 kHz (active LOW); this output can drive an LED
CHMODE	16	OPP41A	use of channel status block (0 = professional use; 1 = consumer use); this output can drive an LED
V_{DDD2}	17	E008	digital supply voltage 2
V_{SSD2}	18	E009	digital ground 2
RESET	19	IDP09	initialization after power-on, requires only an external capacitor connected to V_{DDD}; this is a Schmitt-trigger input with an internal pull-down resistor
PD	20	IPP04	enable power-down input in the standby mode (0 = normal application; 1 = standby mode)
CTRLMODE	21	IUP04	select microcontroller/stand-alone mode (0 = microcontroller; 1 = stand-alone); this input has an internal pull-up resistor
LADDR	22	IPP04	microcontroller interface address switch input (0 = 000001; 1 = 000010)
LMODE	23	IPP09	microcontroller interface mode line input
LCLK	24	IPP09	microcontroller interface clock line input
LDATA	25	IOF24	microcontroller interface data line input/output
STROBE	26	IDP04	strobe for control register (active HIGH); this input has an internal pull-down resistor
UDAVAIL	27	OPF23	synchronization for output user data (0 = data available; 1 = no data)
TESTA	28	IPP04	enable factory (scan) test input (0 = normal application; 1 = test clock enable)
COPY	29	OPP41A	copyright status bit (0 = copyright asserted; 1 = no copyright asserted); this output can drive an LED
INVALID	30	IOD24	validity of audio sample input/output (0 = valid sample; 1 = invalid sample); this pin has an internal pull-down resistor
DEEM	31	OPF23	pre-emphasis output bit (0 = no pre-emphasis; 1 = pre-emphasis)
MUTE	32	IUP04	audio mute input (0 = permanent mute; 1 = mute on receive error); this pin has an internal pull-up resistor
I^2SSEL	33	IUP04	select auxiliary input or normal input in transmit mode
SDAUX	34	IPP04	auxiliary serial data input; I^2S-bus
SD	35	IOF24	serial audio data input/output; I^2S-bus
WS	36	IOF24	word select input/output; I^2S-bus
SCK	37	IOF29	serial audio clock input/output; I^2S-bus
I^2SOEN	38	IUP04	serial audio output enable (0 = enabled; 1 = disabled/3-state); this input has an internal pull-up resistor
SYSCLKI	39	IPP09	system clock input (transmit mode)
SYSCLKO	40	OPFA3	system clock output (receive mode)
V_{SSD1}	41	E009	digital ground 1
V_{DDD1}	42	E008	digital supply voltage 1
CLKSEL	43	IUP04	select system clock (0 = $384f_s$; 1 = $256f_s$); this input has an internal pull-up resistor
RC_{int}	44	E029	integrating capacitor output

• QY03 MN187164MXK(MICROPROCESSOR)



MODEL SEL		
MODEL	PIN47	OPTION
CD-17D	0	WITH DIO
CD-17	1	NON DIO



• QY03 MN187164MXK(MICROPROCESSOR)

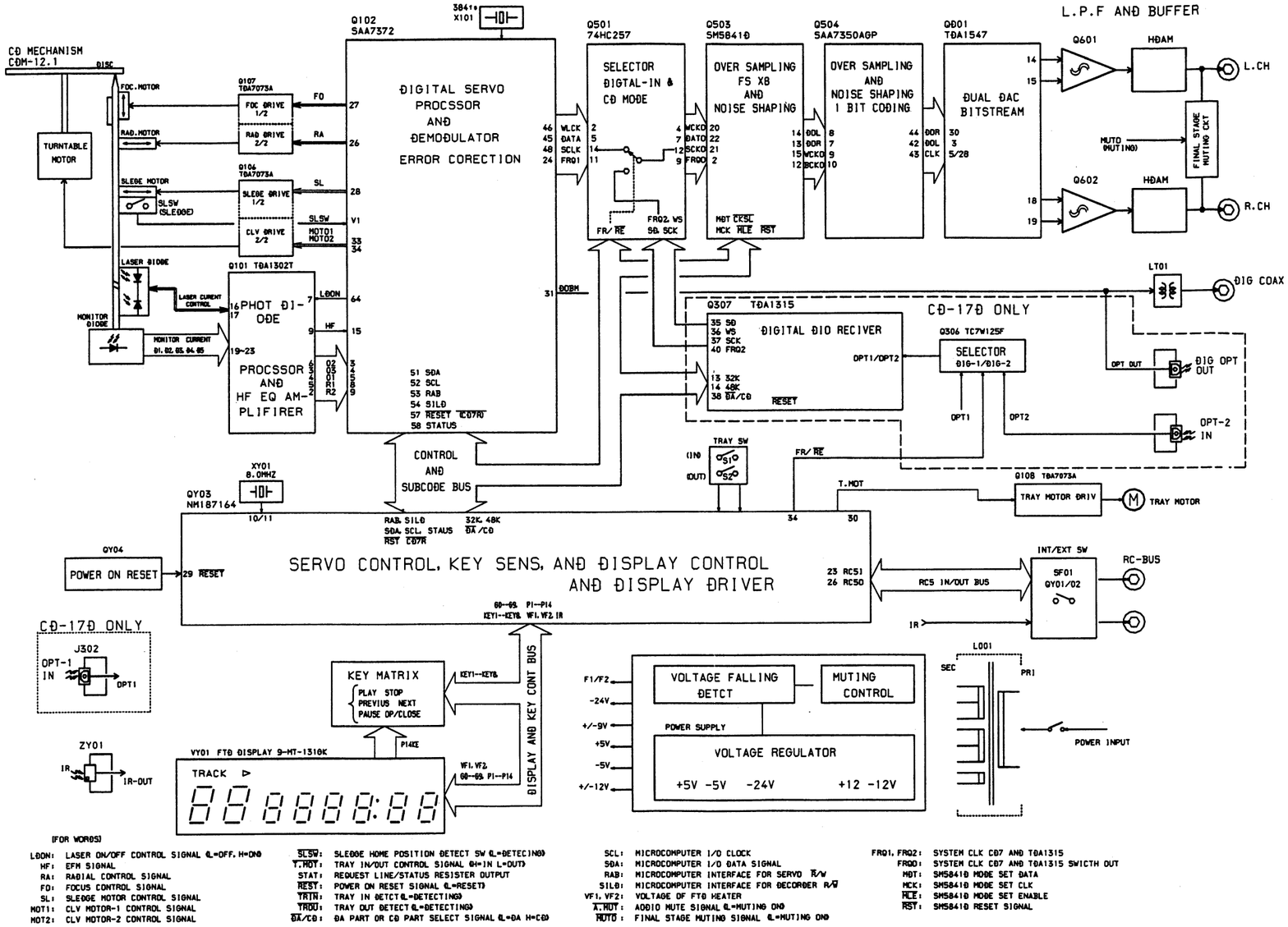
PIN NO	PORT NAME		I/O	ACT	FUNCTION
1	P56	(SEG6)	O	X	FL SEGMENT DATA,P8
2	P55	(SEG5)	O	X	FL SEGMENT DATA,P9
3	P54	(SEG4)	O	X	FL SEGMENT DATA,P10
4	P53	(SEG3)	O	X	FL SEGMENT DATA,P11
5	P52	(SEG2)	O	X	FL SEGMENT DATA,P12
6	P51	(SEG1)	O	X	FL SEGMENT DATA,P13
7	P50	(SEG0)	O	X	FL SEGMENT DATA,P14
8	VPP	VPP	I	-25	POWER SUPPLY -25V,VFTD
9	VDD	VCC	I	+5	POWER SUPPLY +5V
10	OSC2	OSC2	O	X	CLOCK OUT(8.0MHZ)
11	OSC1	OSC1	I	X	CLOCK IN (8.0MHZ)
12	VSS	VSS	I	L	GND
13	XI	VSS	I	L	GND
14	XO	NC	-	X	NOT USED
15	P27	CD7 RESET	O	H	CD7 RESET(LOW RESET)
16	P26	STATUS	I	X	NOT USED
17	P25	SDA	O	X	DATA BUS DATA
18	P24	SCL	O	X	DATA BUS CLOCK
19	P23	SILD	O	X	DATA BUS R/W AND LORD CONTROL SERVO
20	P22	RAB	O	X	DATA BUS R/W AND LORD CONTROL DECODER
21	P21	SLSW	O	H	SLEDGE SW L:IN END
22	P20	A. MUTE	O	H	AUDIO MUTE L: MUTED
23	P15	RC5I	I	H	RC-5 DATA INPUT
24	P14	UNLOCK	I	H	TDA1315 UNLOCK SIGNAL L: UNLOCK
25	P13	EMPHA	I	L	TDA1315 EMPHA SIGNAL H: EMPHASISS ON
26	P12	RC5O	O	H	RC-5 DATA OUTPUT
27	P11	MLE	O	X	SM5841 LACH ENABLE
28	P10	RST	O	H	SM5841 RESET SIGNAL
29	P07	RESET	I	H	RESET INPUT
30	P05	T.MOTOR	O	M	TRAY MOTOR CONTROL SIGNAL
31	P04	TRIN	I	L	TRAY IN/OUT DETECT SW L:IN END
32	P03	TROUT	I	H	TRAY IN/OUT DETECT SW L:OUT END
33	P02	MUT	O	H	TDA1315 MUTING SIGNAL
34	P01	FR/RE	I	X	DIGITAL INPUT SELECT L: FRONT H: REAR
35	P00	DA/CD	I	H	MODE SELECT DIGTAL OR CD
36	SYNC	NC	-	-	NOT USED
37	CM	GND	-	L	GND
38	P47	KEY8	I	X	KEY INPUT,KEY 8
39	P46	KEY7	I	X	KEY INPUT,KEY 7
40	P45	KEY6	I	X	KEY INPUT,KEY 6
41	P44	KEY5	I	X	KEY INPUT,KEY 5
42	P43	KEY4	I	X	KEY INPUT,KEY 4
43	P42	KEY3	I	X	KEY INPUT,KEY 3
44	P41	KEY2	I	X	KEY INPUT,KEY 2
45	P40	KEY1	I	X	KEY INPUT,KEY 1
46	P87	(DGT0)	O	X	FL DIGIT DATA,G9
47	P86	(DGT1)	O	X	FL DIGIT DATA,G8
48	P85	(DGT2)	O	X	FL DIGIT DATA,G7
49	P84	(DGT3)	O	X	FL DIGIT DATA,G6
50	P83	(DGT4)	O	X	FL DIGIT DATA,G5
51	P82	(DGT5)	O	X	FL DIGIT DATA,G4
52	P81	(DGT6)	O	X	FL DIGIT DATA,G3
53	P80	(DGT7)	O	X	FL DIGIT DATA,G2
54	P71	(DGT8)	O	X	FL DIGIT DATA,G1
55	P70	MODEL	I	X	MODEL SELECT L: CD-17DF H: CD-17
56	P67	48K	I	X	SAMPLING SIGNAL L=48KHZ RECIVE
57	P66	32K	I	X	SAMPLING SIGNAL L=32KHZ RECIVE
58	P65	(SEG13)	O	X	FL SEGMENT DATA,P1
59	P64	(SEG12)	O	X	FL SEGMENT DATA,P2
60	P63	(SEG11)	O	X	FL SEGMENT DATA,P3
61	P62	(SEG10)	O	X	FL SEGMENT DATA,P4
62	P61	(SEG9)	O	X	FL SEGMENT DATA,P5
63	P60	(SEG8)	O	X	FL SEGMENT DATA,P6
64	P57	(SEG7)	O	X	FL SEGMENT DATA,P7

• Q503 SM5841D

PIN NO.	PIN NAME	I/O	FUNCTION
1	CKSL	IP(*)	NORMAL/DOUBLE SPEED MODE SELECT. (NORMAL MODE AT CKSL=H) (DOUBLE SPEED MODE AT CKSL=L)
2	XTI	I	OSC INPUT TERMINAL (IN CD SYSTEM, 16.9344MHz FIXED) (384fs=16.9344MHz ➡ fs=44kHz AT CKSL=H) (192fs=16.9344MHz ➡ fs=88.2kHz AT CKSL=L)
3	XTO	O	OSC OUTPUT TERMINAL
4	CKO	O	OSC OUTPUT CLOCK (FREQUENCY IS SAME AS SHOWN IN XTI TERMINAL)
5	VSS	/	GND TERMINAL
6	(NC)	/	
7	(NC)	/	
8	MDT	IP	MODE SET DATA — PERFORMS SETTING FOR DIGITAL ATTENUATOR AND MODE FLAG RESISTOR.
9	MCK	IP	MODE SET CLOCK
10	MLE	IP	MODE SET LATCH ENABLE
11	RST	IP	SYSTEM RESET (INITIALIZATION)
12	BCKO	O	OUPUT BIT CLOCK
13	DOR	O	RCH DATA OUTPUT (AT OMOD FLAG=L ; 8fs DATA OUTPUT) (AT OMOD FLAG=H ; 4fs DATA OUTPUT)
14	DOL	O	LCH DATA OUTPUT (AT OMOD FLAG=L ; 8fs DATA OUTPUT) (AT OMOD FLAG=H ; 4fs DATA OUTPUT)
15	WCKO	O	OOUPUT WORD CLOCK
16	VDD	/	POWER SUPPLY TERMINAL (5V)
17	(NC)	/	
18	(NC)	/	
19	(NC)	/	
20	LRCI	IP	INPUT DATA SAMPLING RATE (fs) CLOCK
21	BCKI	IP	INPUT BIT CLOCK
22	DIN	IP	INPUT DATA

(*) IP STANDS FOR INPUT TERMINAL WITH A PULL-UP RESISTOR. ACCORDING BY, IT CAN BE OPENED IN H LEVEL SETTING.

7. BLOCK DIAGRAM



(FOR WORDS)

LDON: LASER ON/OFF CONTROL SIGNAL (L=OFF, H=ON)
HF: EFM SIGNAL
RA: RADIAL CONTROL SIGNAL
FO: FOCUS CONTROL SIGNAL
SL: SLEDGE MOTOR CONTROL SIGNAL
MOT1: CLV MOTOR-1 CONTROL SIGNAL
MOT2: CLV MOTOR-2 CONTROL SIGNAL

SLSW: SLEDGE HOME POSITION DETECT SW (L=DETECING)
T.MOT: TRAY IN/OUT CONTROL SIGNAL (H=IN L=OUT)
STAT: REQUEST LINE/STATUS RESISTER OUTPUT
REST: POWER ON RESET SIGNAL (L=RESET)
TRIN: TRAY IN DETCT (L=DETECTING)
TROU: TRAY OUT DETECT (L=DETECTING)
DA/CD: DA PART OR CD PART SELECT SIGNAL (L=DA H=CD)

SCL: MICROCOMPUTER I/O CLOCK
SDA: MICROCOMPUTER I/O DATA SIGNAL
RAB: MICROCOMPUTER INTERFACE FOR SERVO R/W
SILD: MICROCOMPUTER INTERFACE FOR DECORDER R/W
VF1, VF2: VOLTAGE OF FTD HEATER
A.MUT: AODIO MUTE SIGNAL (L=MUTING ON)
MUTO: FINAL STAGE MUTING SIGNAL (L=MUTING ON)

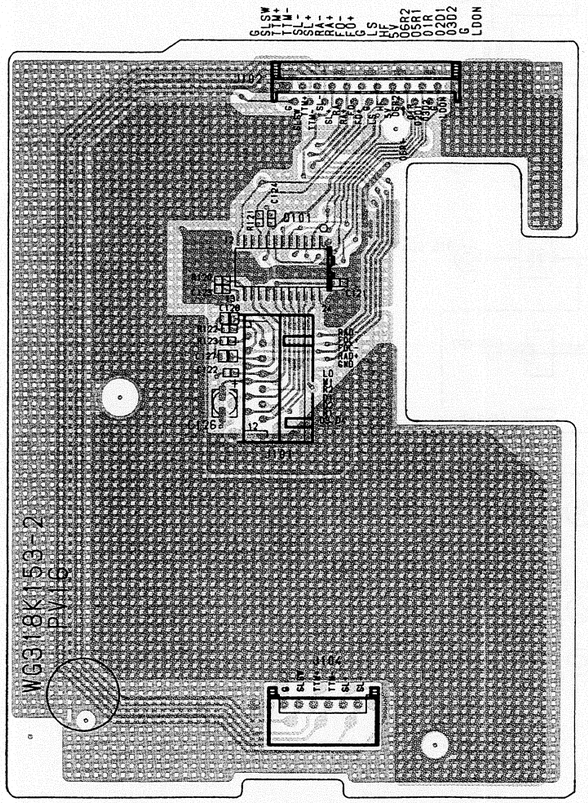
FRQ1, FRQ2: SYSTEM CLK CD7 AND TDA1315
FRQO: SYSTEM CLK CD7 AND TDA1315 SWICTH OUT
MDT: SM5841D MODE SET DATA
MCK: SM5841D MODE SET CLK
MLE: SM5841D MODE SET ENABLE
RST: SM5841D RESET SIGNAL

8. FLAG NO.

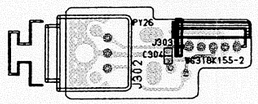
NO	ITEM	FUNCTION	NO	ITEM	FUNCTION	NO	ITEM	FUNCTION	NO	ITEM	FUNCTION
0	MT-OUT	MOTOR DRIVE OUTPUT	19	DATO	SERIAL DATA SWITCH OUT	38			57	UNLOCK	PLL OUT-OF-LOCK(0=NOT LOCKED)
1	HF OUT	TDA1302T HF SIGNAL OUT	20	DATO/DIN	INV SERIAL DATO DATA	39	SLSW	SLEDGE SW L: IN END	58	FLGS	FL GRID AND SEGMENT DRIVE
2			21	BCKI/SCKO	SERIAL DATA BIT CLOCK SWITCH OUT	40	A.MUTE	AUDIO MUTE L: MUTED	59	OPT1	OPTICAL INPUT SIGNAL 1
3	HF HPF	HF SIGNAL HPF OUT	22			41	LOCK	DELAY UNLOCK SIGNAL L: UNLOCK H:LOCK	60	OPT2	OPTICAL INPUT SIGNAL 2
4			23	FRQO	SYSTEM CLOCK SWITCH OUT (16.9344MHZ)	42	EMPH	TDA1315 EMPHA SIGNAL H: EMPHASIS ON	61	RC I/O	RC-5 SIGNAL INPUT/OUTPUT
5	RA	RADIAL MOTOR CONT PULSE(PDM)	24	SDA	MPU CONTROL DATA FOR CD7 AND SM5841D	43			62	IRSW	RC-5 INT/EXT SELECT SW
6	FO	FOCUS MOTOR CONT PULSE(PDM)	25	SCL	MPU CONTROL CLOCK FOR CD7 AND SM5841D	44			63	RC5I	RC-5 SIGNAL MPU INPUT
7	SL	SLEDGE MOTOR CONT PULSE(PDM)	26	MLE	LACH CLOCK FOR DATA SM5741D	45	T.MOT	TRAY MOTOR CONTROL SIGNAL	64	IR	RC-5 IR RECEIVE SIGNAL OUT
8	MOTO1	TURNTABLE CONT PULSE(PDM)	27	RST	MPU CONTROL RESET PULSE FOR SM5841D	46	TRIN	TRAY IN/OUT DETECT SW L: IN END	65	OPT1/OPT2	OPTICAL INPUT SIGNAL 1 OR 2 SWITCH OUT
9	MOTO2	TURNTABLE CONT PULSE(PDM)	28	WSI	X8 FS WORD CLOCK(352.8KHZ)	47	TROUT	TRAY IN/OUT DETECT SW L: OUT END	66	LPFO	AUDIO SIGNAL LPF OUT
10	DOBM	DIGITAL OUTPUT SIGNAL	29	SD1	X8 DIGITAL FILTERING DATA-1	48	MUT	TDA1315 MUTING SIGNAL	67	LROUT	AUDIO SIGNAL OUT
11	CD7R	CD7 RESET PULSE	30	SD2	X8 DIGITAL FILTERING DATA-2	49	FR/RE	DIGITAL INPUT SELECT L: FRONT H:REAR	68	MUTO	AUDIO SIGNAL KILL OUTPUT
12	SILD	DATA BUS R/W AND LORD CONTROL SERVO	31	SCKI	X8 DIGITAL FILTERING DATA CLOCK	50	DA/CD	MODE SELECT DIGITAL OR CD	69	PWMU	POWER ON/OFF MUTING SET SIGNAL
13	RAB	DATA BUS R/W AND LORD CONTROL DECODER	32	DOR	1 BIT DATA R	51	48K	INDICATES SAMPLE FREQUENCY=48KHZ(ACTIVE LOW)	70		
14	SCLK	AUDIO SERIAL DATA CLOCK	33	CLK	1 BIT DATA CLOCK OUT	52	32K	INDICATES SAMPLE FREQUENCY=44.1KHZ(ACTIVE LOW)	71		
15	WCLK	AUDIO WORD CLOCK	34	DOL	1 BIT DATA L	53	SD	SERIAL AUDIO DATA INPUT/OUTPUT; I2S-BUS	72		
16	DAT	AUDIO I2S DATA	35	OSC2	CLOCK OUT(8.0MHZ)	54	WS	WORD SELECT INPUT/OUTPUT; I2S-BUS	73		
17	CL16/FRQ1	SYSTEM CLOCK 16.9344MHZ	36	OSC1	CLOCK IN (8.0MHZ)	55	SCK	SERIAL AUDIO CLOCK INPUT/OUTPUT; I2S-BUS	74		
18	WCKO/LRCI	WORD CLOCK SWITCH OUT	37			56	FRQ2	TDA1315H SYSTEM CLOCK OUTPUT	75		

9. PARTS LOCATIONS AND SCHEMATIC DIAGRAM

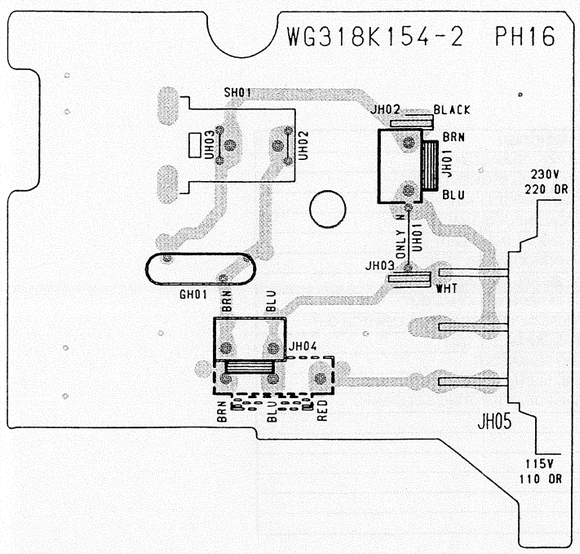
PV16



PY26

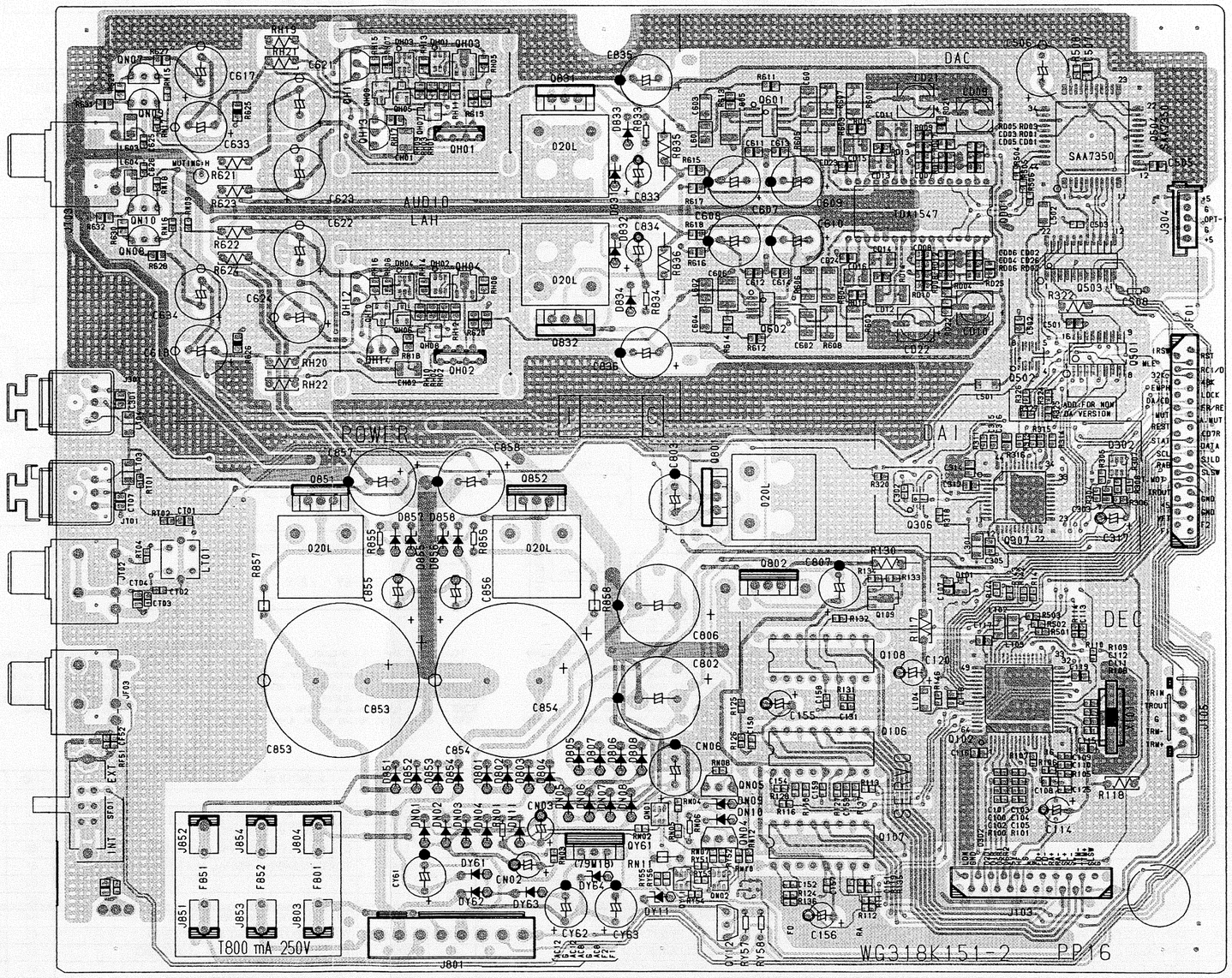


PH16



QN07~QN10 QH11,QH09,QH13,QH05,QH07,QH03,QH01 Q831,Q832 Q601,Q602 QD01 Q503 Q501 Q504
QH12,QH10,QH14,QH06,QH08,QH04,QH02 Q802 Q109 Q307 Q302

PP16 Q851 Q852 QY61,QN01,QY11,QN05,QN04,QN02,QY12 Q106~Q108 Q102



CÐM 12.1

SERVO PCB (LSE) PV16

LSE

MAIN PCB (LSE/LLM/LAU/LAH/ETC) (PP16)

ÐIG.1 PCB (PY26)

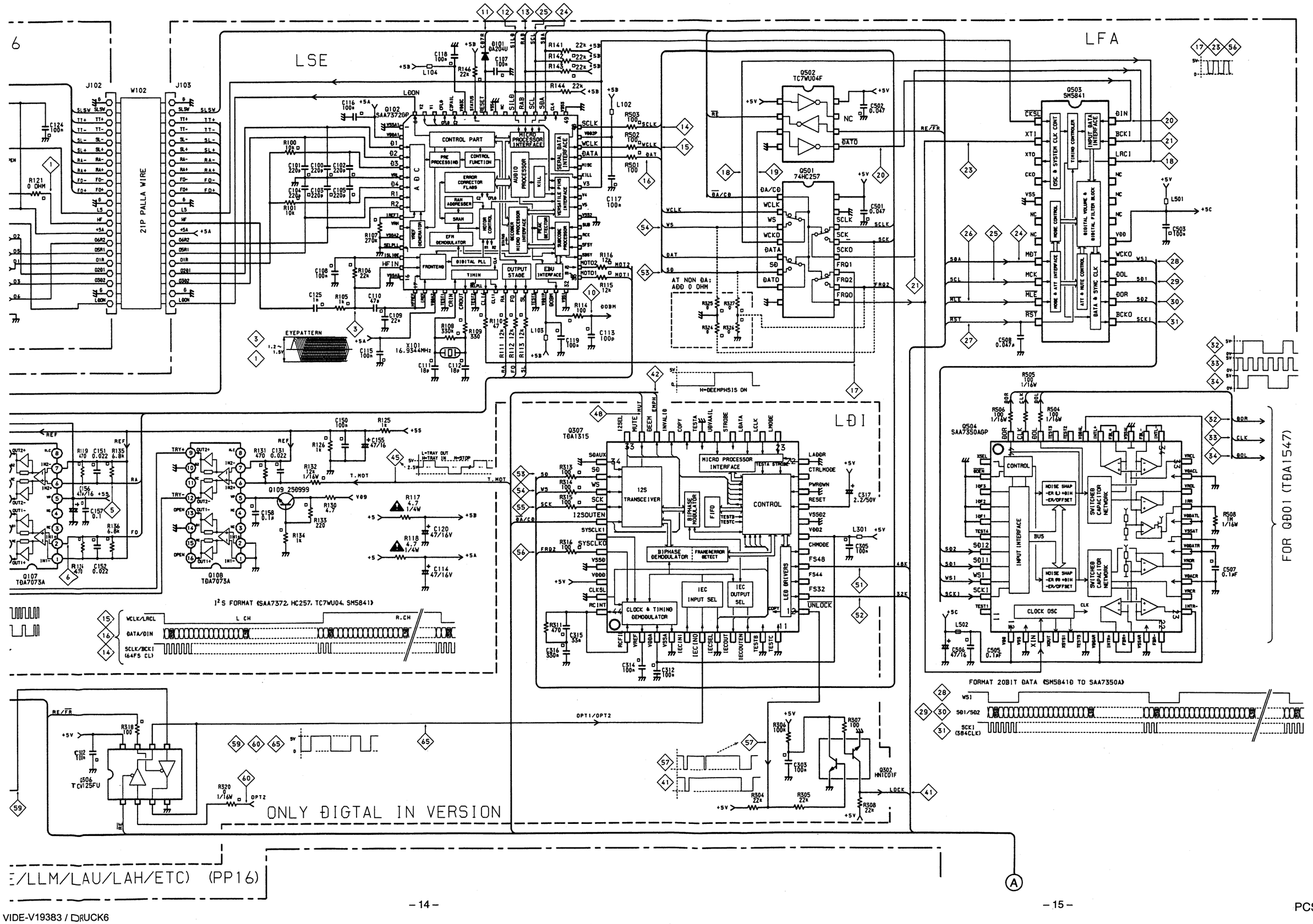
ONLY ÐIGTAL IN VERSION

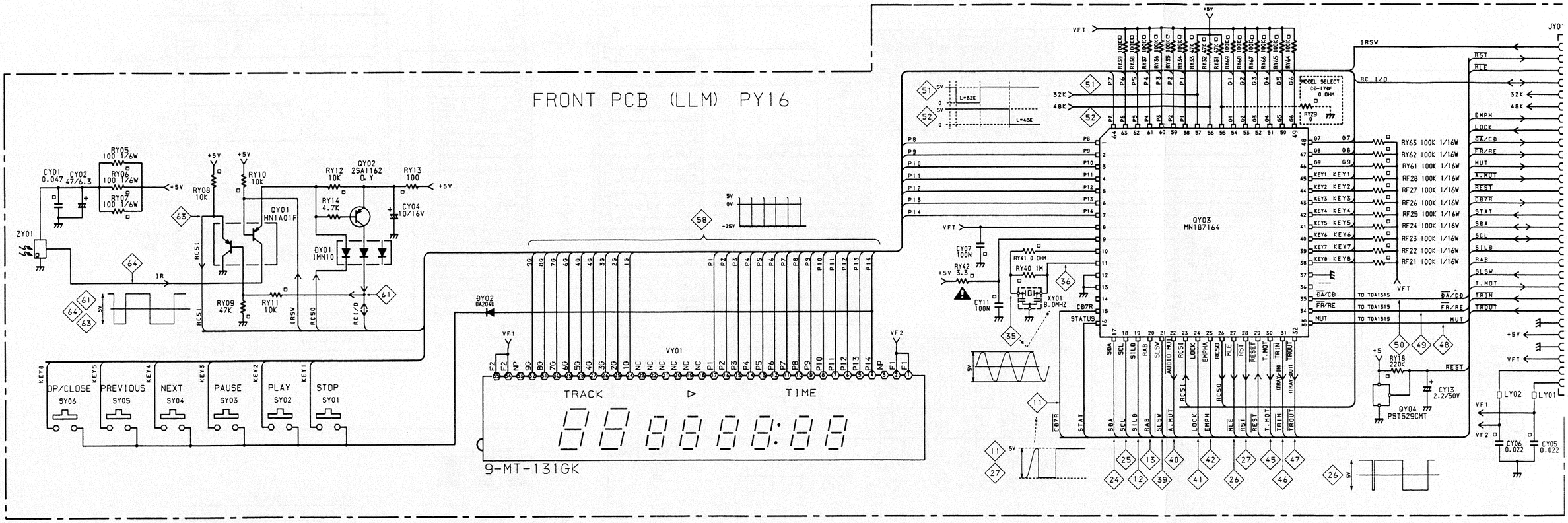
PHOTO DIOEDS
COM12.1(TAD1302)

D1 (R2)
D2 (D1) D4 (D3)
D3 (D2)
D5 (R1)

OPTICAL INPUT 1
(FRONT)

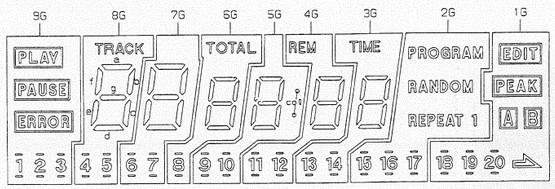
I²S FORMAT (SAA7372, HC257, TC7WU04, SM5841)


LSE
LFA
LDI
J102
W102
J103
21P PALLA WIRE
Q101 0A204U
Q102 SAA7372GP
CONTROL PART
MICRO PROCESSOR INTERFACE
PRE PROCESSING
CONTROL FUNCTION
ERROR CONCEALMENT FLAGS
AUDIO PROCESSOR
RAM ADDRESSER
SRAM
MOTOR CONTROL
EFM DEMODULATOR
DIGITAL PLL
TIMING
FRONTEND
OUTPUT STAGE
EBU INTERFACE
SERIAL DATA INTERFACE
VOLATILE RAM INTERFACE
RECEIVER MICRO PROCESSOR INTERFACE
SUBCODE PROCESSOR
PEAK DETECTOR
Q107 TDA7073A
Q108 TDA7073A
Q109 2S0999
Q307 TDA1315
12S TRANSCEIVER
BIPHASE MODULATOR
BIPHASE DEMODULATOR
FRAMEERROR DETECT
FIFO
CONTROL
MICRO PROCESSOR INTERFACE
CLOCK & TIMING DEMODULATOR
IEC INPUT SEL
IEC OUTPUT SEL
LEB DRIVERS
Q502 TC7WU04F
Q501 74HC257
Q503 SM5841
Q504 SAA7350AGP
Q306 TCW125FU
Q302 HN1C01F
X101 16.9344MHz
EYEPATTERN
AT NON DA: ADD 0 OHM
H=DEEMPHSIS ON
I²S FORMAT (SAA7372, HC257, TC7WU04, SM5841)
FORMAT 20BIT DATA (SM5841D TO SAA7350A)
FOR QD01 (TDA1547)
ONLY DIGTAL IN VERSION
(E/LLM/LAU/LAH/ETC) (PP16)



FL DISPLAY

TERMINAL CONNECTION



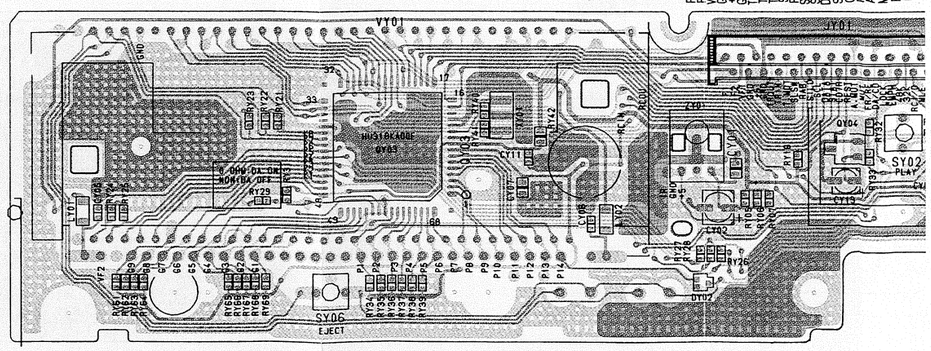
INTERNAL CONNECTION

ANODE CONNECTION

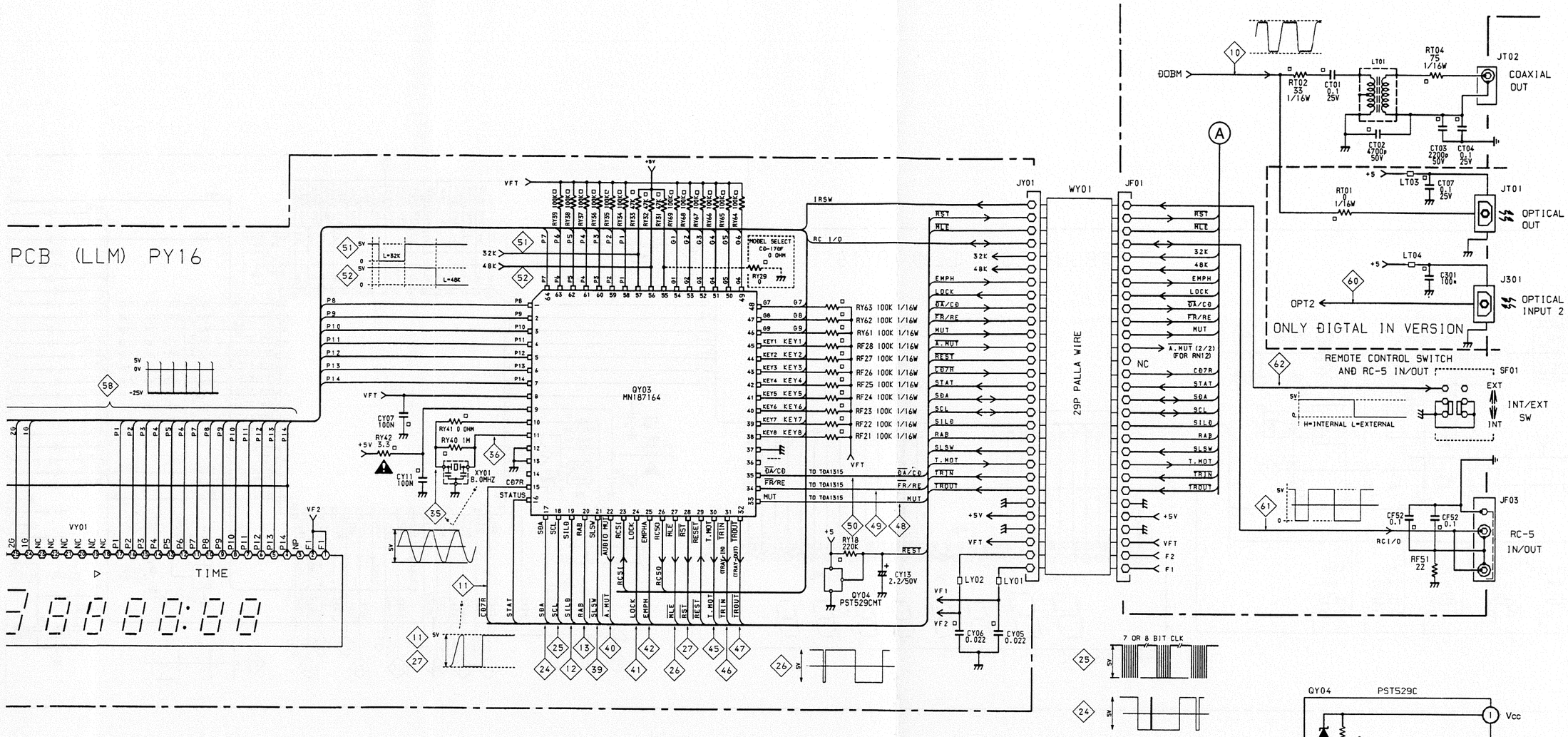
	9G	8G	7G	6G	5G	4G	3G	2G	1G
P1	-	a	a	a	a	a	a	PROGRAM	PEAK
P2	(1)	b	b	b	b	b	b	16	18
P3	1	c	c	c	c	c	c	(15)	(18)
P4	(1)	d	d	d	d	d	d	1	
P5	-	e	e	e	e	e	e	REPEAT	B
P6	ERROR	f	f	f	f	f	f	-	A
P7	(2)	g	g	g	g	g	g	(15)	(18)
P8	2	(4)	-	TOTAL	col	REM	(13)	(16)	(19)
P9	(2)	4	(6)	-	(9)	(11)	13	16	19
P10	(3)	(4)	6	(8)	9	11	(13)	(16)	(19)
P11	3	(5)	(6)	8	(9)	(11)	(14)	(17)	(20)
P12	(3)	5	(7)	(8)	(10)	(12)	14	17	20
P13	PLAY	(5)	7	-	10	12	(14)	(17)	(20)
P14	PAUSE	TRACK	(7)	-	(10)	(12)	TIME	RANDOM	EDIT

9-MT-131GK
ANODE CONNECTION

PY16



PCB (LLM) PY16



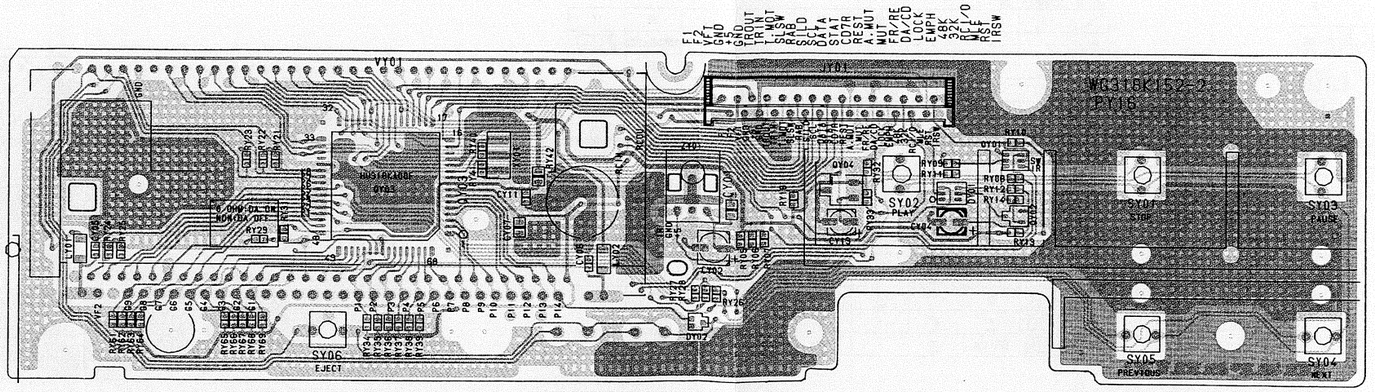
QY03 QY04 QY01 QY02

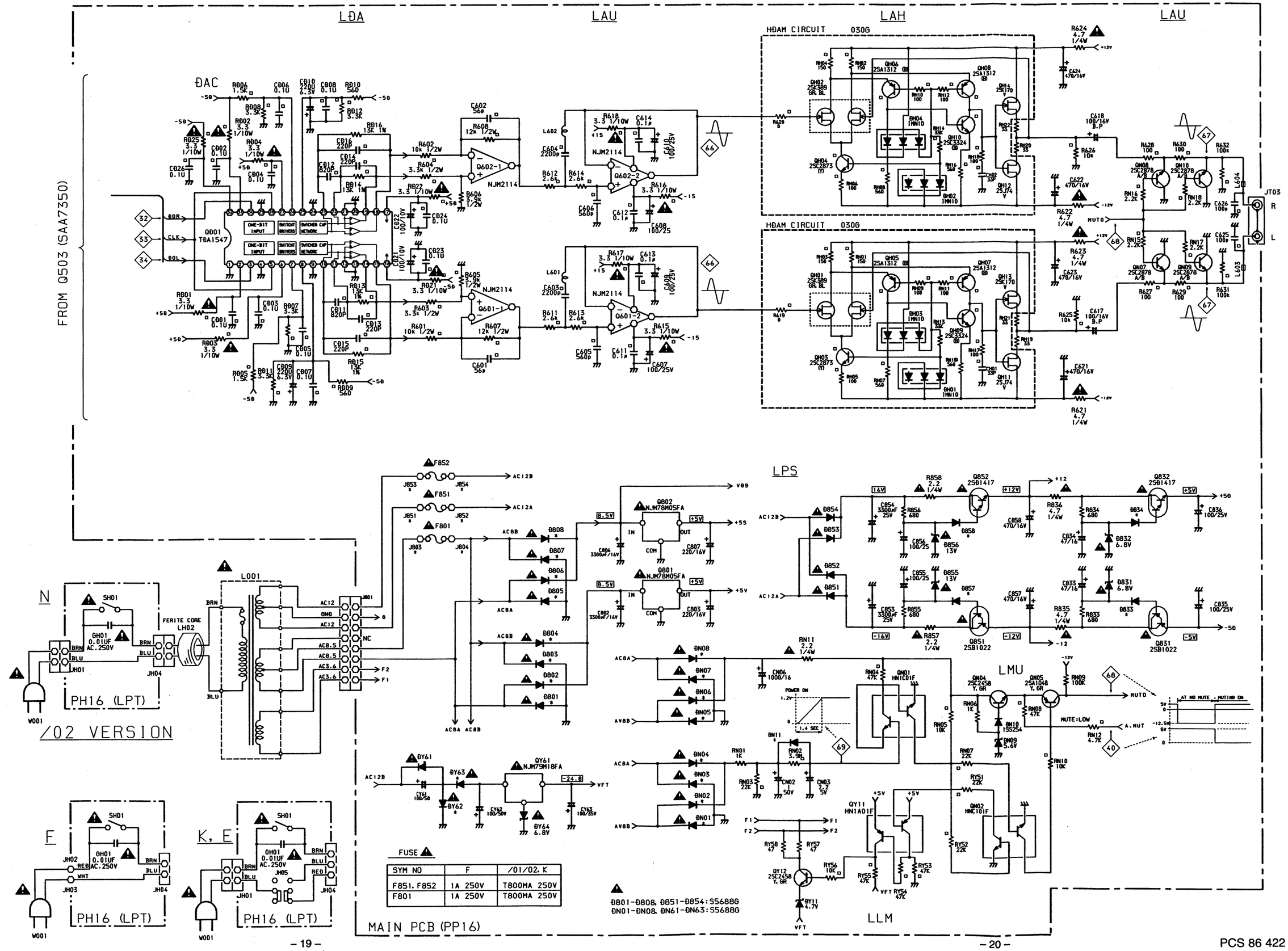
TION

	6G	5G	4G	3G	2G	1G
	a	a	a	a	PROGRAM	PEAK
	b	b	b	b	15	18
	c	c	c	c	(15)	(18)
	d	d	d	d	1	
	e	e	e	e	REPEAT	B
	f	f	f	f	-	A
	g	g	g	g	(15)	(18)
	TOTAL	col	REM	(13)	(16)	(19)
	-	(9)	(11)	13	16	19
	(8)	9	11	(13)	(16)	(19)
	8	(9)	(11)	(14)	(17)	(20)
	(8)	(10)	(12)	14	17	20
	-	10	12	(14)	(17)	(20)
	-	(10)	(12)	TIME	RANDOM	EDIT

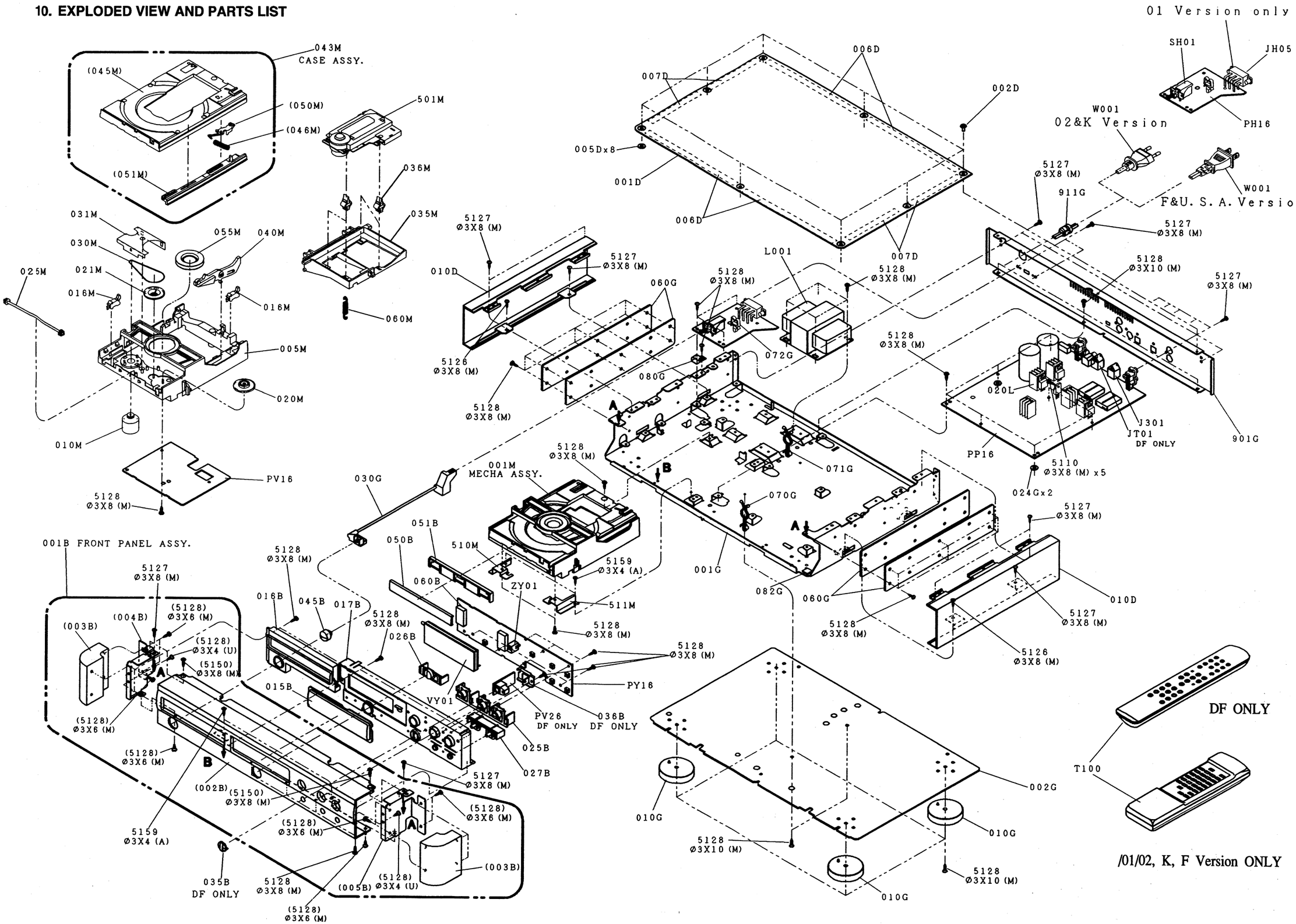
9-MT-131GK
ANODE CONNECTION

PY16




LĐA
LAU
LAH
LAU
ĐAC
HĐAM CIRCUIT 030G
HĐAM CIRCUIT 030G
FROM Q503 (SAA7350)
LPS
LMU
LLM
MAIN PCB (PP16)
N
/02 VERSION
F
K, E
PH16 (LPT)
FERITE CORE LH02
FUSE
SYM NO | F | /01/02. K
F851. F852 | 1A 250V | T800MA 250V
F801 | 1A 250V | T800MA 250V
Đ801-Đ808, Đ851-Đ854: S5688G
ĐN01-ĐN08, ĐN61-ĐN63: S5688G
JT03
R
L
MUTE
A. MUT
MUTE:LOW
AT MB MUTE
MUTING ON
POWER ON
1.4 SEC

10. EXPLODED VIEW AND PARTS LIST



[VERS. :VERSION, U:U.S.A, F:Japan, K:Far East, /XX:Europe]

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
001B	/01B,/02B,FB, KB		FRONT PANEL ASSY,BLK	318K248500
001B	/02G, FG, KG		FRONT PANEL ASSY,GLD	318K248510
001B	DFG		FRONT PANEL ASSY,CD-17D GLD	318K248530
001B	DFB		FRONT PANEL ASSY,CD-17D BLK	318K248520
002B	/01/02B,FB,KB	4822 444 50749	FRONT PANEL AL,BLK	318K248010
002B	DFG		FRONT PANEL AL, CD-17D GLD	318K248120
002B	DFB		FRONT PANEL AL, CD-17D BLK	318K248020
002B	/02G,FG, KG	4822 444 50751	FRONT PANEL AL, GLD	318K248110
003B	BLACK	4822 444 40852	ESCUTCHEON, CORNER COLUMN AL,BLK	318K063010
003B	GOLD	4822 444 40853	ESCUTCHEON, CORNER COLUMN AL,GLD	318K063110
015B	BLACK		WINDOW,BLUE SMOKE FOR BLACK	318K158010
015B	GOLD		WINDOW,PINK SMOKE FOR GOLD	318K158110
016B	GOLD	4822 464 51131	BUSHING, FOR TRAY OPENING,FOR GOLD	318K259110
016B	BLACK	4822 464 51129	BUSHING, FOR TRAY OPENING,BLACK	318K259010
017B	GOLD	4822 459 50978	RETAINER, FRONT PCB HOLDER,FOR GOLD	318K104110
017B	BLACK	4822 459 50977	RETAINER, FRONT PCB HOLDER,BLACK	318K104010
017B	DFB		FRONT PCB HOLDER,WITH TOS,BL	318K104030
017B	DFG		FRONT PCB HOLDER,WITH TOS,GL	318K104130
025B	BLACK	4822 410 70027	BUTTON, PLAY/STOP/PAUSE,BLACK	318K270020
025B	GOLD	4822 410 70032	BUTTON, PLAY/STOP/PAUSE,GOLD	318K270120
026B	BLACK	4822 410 70028	BUTTON, OPEN/CLOSE,BLACK	318K270030
026B	GOLD	4822 410 70033	BUTTON, OPEN/CLOSE,GOLD	318K270130
027B	BLACK	4822 410 70029	BUTTON, TRACK,BLACK	318K270040
027B	GOLD	4822 410 70034	BUTTON, TRACK,GOLD	318K270140
035B	DFB		CAP, DIGITAL IN CAP BROWN	318K067110
035B	DFG		CAP, DIGITAL IN CAP ELASTOMER GRAY	318K067010
045B	BLACK	4822 410 70026	BUTTON, POWER,BLACK	318K270010
045B	GOLD	4822 410 70031	BUTTON, POWER,GOLD	318K270110
050B	BLACK	4822 444 61105	ESCUTCHEON, TRAY LID AL,BLACK	318K063030
050B	GOLD	4822 444 61106	ESCUTCHEON, TRAY LID AL,GOLD	318K063130
051B	BLACK		RETAINER, TRAY LID BLACK	318K104020
051B	GOLD		RETAINER, TRAY LID RETAINER,FOR GOLD	318K104120
001D	GOLD	4822 444 30517	LID, TOP COVER AL,GOLD	318K257110
001D	BLACK	4822 444 30516	LID, TOP COVER AL,BRACK	318K257010
002D	BLACK	4822 502 21693	SCREW, SYNHEAD SCREW	323S010030
002D	GOLD		SCREW, SYNHEAD SCREW	323S010020
005D			SPACER, TOP COVER SPACER	318K118010
006D			SHEET, TOP COVER BUFFER:FRONT/REAR	052B107030
007D			SHEET, TOP COVER BUFFER:SIDE	318K107010
010D	GOLD	4822 444 40855	SIDE PANEL, GOLD	318K249110
010D	BLACK	4822 444 40854	SIDE PANEL, BLACK	318K249010
010G		4822 462 42236	LEG,D50/H13,AL.RING:GOLD SPIN	001D057010
030G			LINK, POWER SW.LINK	318K121010
911G	/01/02,K	4822 532 60948	BUSHING, AC CORD (NIFCO 2271)	450H259010
911G	F,DF	4822 532 52145	BUSHING, AC CORD	1455259210
001M	GOLD		LOADER, MECHANISM LM-300	305K304520
001M	BLACK	4822 691 30353	LOADER MECHANISM LM-300 BLACK	305K304510
005M			FRAME, K	305K401500
010M		4822 361 21741	D.C MOTOR K,	MM0030002R
016M		4822 271 30873	MINI SWITCH	SM01020620
020M		4822 522 33521	GEAR	305K058030
021M		4822 528 81537	PULLEY	305K262010
025M		4822 522 33522	GEAR, K	305K058500
030M		4822 358 31314	BELT	305K264010
035M		4822 443 51265	CASE	305K064110
036M		4822 462 72118	BUFFER, SUSPENSION	305K056010
040M		4822 402 20104	ARM	305K002010
043M	BLACK	4822 444 50732	CASE, K BLACK	305K064500
043M	GOLD	4822 444 50732	CASE, K BROWN	305K064510
045M	BLACK		CASE, CASE BLACK	305K064010
045M	GOLD	4822 444 50747	CASE, BROWN	305K064020
046M		4822 492 33494	SPRING	305K115010
050M		4822 528 30429	CAM	305K054010
051M		4822 522 33519	GEAR	305K058010
055M		4822 401 11582	CLAMPER, K	305K005500
060M		4822 492 33495	SPRING	305K115020
501M		4822 691 30278	MECHANISM, 3104 147 02170 CDM12.1/15A	292K304500

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
⚠L001	/01	4822 146 21858	POWER TRANSF, 115/230V FOR E	TS17205030
⚠L001	F,DF		POWER TRANSF, 100V FOR F	TS17205010
⚠L001	K		POWER TRANSF, 110V 220V	TS17205040
⚠L001	/02	4822 146 21857	POWER TRANSF, 230VFOR N,	TS17205020
⚠W001	/01/02, K	4822 321 10985	AC.POWER CORD, 2.5A 250V FIX(S/N/B)	YC01800610
⚠W001	F,DF		A.C.POWER CORD, 15A 125V AC CABLE(OFC)	YC01800430
			PACKING	
001S	FB		PACKING CASE BLK(CD-17)	318K801010
001S	FG		PACKING CASE GLD(CD-17)	318K801020
001S	DFB		PACKING CASE BLK(CD-17D)	318K801030
001S	DFG		PACKING CASE GLD(CD-17D)	318K801040
002S	F		CUSHION:4 PIECE	318K809010
001T	/01/02, K	4822 736 22641	USER MANUAL CD-17(8 LANGUAGE)	318K851310
001T	F		USER MANUAL CD-17F	318K851120
001T	DF		USER MANUAL CD-17DF	318K851110
B001	F		BATTERY SUM-3NG-2P	ZF23102000
B001	DF		BATTERY UM-4NEPH/2S	ZF24302000
J081	/01,K	4822 267 31647	JACK, AC ADAPTER CCT5902-0701	YJ04001960
J082		4822 321 22611	CONNECTIVE CORD, RCA (GOLD)	ZD01100010
T100	/01/02,F, K	4822 218 10527	UNIT K IR COMANDER (RC-63CD)	ZK286K0010
T100	DF		UNIT K IR COMANDER (RC-D17CD)	ZK318K0010

11. ELECTRICAL PARTS LIST

ASSIGNMENT OF COMMON PARTS CODES.

RESISTOR

R＊＊＊ : (1) GD05 x x x 140, Carbon film fixed resistor, ±5% 1/4W
R＊＊＊ : (2) GD05 x x x 160, Carbon film fixed resistor, ±5% 1/6W

① ——— Resistance value

Examples ;
① Resistance value

0.1 Ω.....001	10 Ω.....100	1 kΩ.....102	100 kΩ.....104
0.5 Ω.....005	18 Ω.....180	2.7 kΩ.....272	680 kΩ.....684
1 Ω.....010	100 Ω.....101	10 kΩ.....103	1 MΩ.....105
6.8 Ω.....068	390 Ω.....391	22 kΩ.....223	4.7 MΩ.....475

(Note) Please distinguish 1/4W from 1/6W by the shape of parts used actually.

C＊＊＊ : CERAMIC CAP.
(1) DD1x x x x 370, Ceramic capacitor
Disc type
① ② Temp. coeff. P350 ~ N1000, 50V
Capacity value
Tolerance

Examples ;
① Tolerance (Capacity deviation)
± 0.25pF 0
± 0.5pF 1
± 5% 5

＊Tolerance of COMMON PARTS handled here are as follows :
0.5pF ~ 5pF ..... ±0.25pF
6pF ~ 10pF ..... ±0.5pF
12pF ~ 560pF ..... ±5%

② Capacity value

0.5 pF 005	3 pF 030	100 pF 101
1 pF 010	10 pF 100	220 pF 221
1.5 pF 015	47 pF 470	560 pF 561

C＊＊＊ : CERAMIC CAP.
(1) DK16 x x x 300, High dielectric constant ceramic capacitor
① Disc type
Temp. chara. 2B4, 50V
Capacity value

Examples ;
① Capacity value

100 pF 101	1000 pF 102	10000 pF 103
470 pF 471	2200 pF 222	

C＊＊＊ : ELECTROLY CAP. (±), FILM CAP. (∓)
(1) EA x x x x x x 10, Electrolytic capacitor
One-way lead type, Tolerance ± 20%
① ② Working voltage
Capacity value

Examples ;
① Capacity value

0.1 µF 104	4.7 µF 475	100 µF 107
0.33 µF 334	10 µF 106	330 µF 337
1 µF 105	22 µF 226	1100 µF 118
		2200 µF 228

② Working voltage

6.3 V 006	25 V 025	
10 V 010	35 V 035	
16 V 016	50 V 050	

(2) DF15 x x x 350 → Plastic film capacitor
DF15 x x x 310 → One-way type, Mylar ± 5% 50V
DF16 x x x 310 → Plastic film capacitor
One-way type, Mylar ± 10% 50V
① Capacity value

Examples ;
① Capacity value

0.001 µF (1000pF) 102	0.1 µF 104
0.0018 µF 182	0.56 µF 564
0.01 µF 103	1 µF 105
0.015 µF 153	

NOTE : 1) The above CODES (R＊＊＊, R＊＊＊, C＊＊＊, C＊＊＊ and C＊＊＊) are omitted on the schematic diagram in some case.
2) On the occasion, be confirmed common parts on the parts list.
3) Refer to "Common Parts List" for the other common parts (**RI05, DD4, DK4**).

NOTE ON SAFETY FOR FUSIBLE RESISTOR :

The suppliers and their type numbers of fusible resistors aer as follows ;

1. KOA Corporation

Part No.	Type No.	Description
NH05 x x x 140	→ RF25S x x x x Ω J	(± 5% 1/4W)
NH05 x x x 120	→ RF50S x x x x Ω J	(± 5% 1/2W)
NH85 x x x 110	→ RF73B2A x x x x Ω J	(± 5% 1/10W)
NH85 x x x 140	→ RF73B2E x x x x Ω J	(± 5% 1/4W)

＊ Resistance value — Resistance value (0.1 - 10kΩ)

2. Matsushita Electronic Components Co., Ltd

Part No.	Type No.	Description
NF05 x x x 140	→ ERD–2FCJ x x x	(± 5% 1/4W)
RF05 x x x 140		
NF02 x x x 140	→ ERD–2FCG x x x	(± 2% 1/4W)
RF02 x x x 140		

＊ Resistance value — ＊ Resistance value

Examples :
＊ Resistance value

0.1 Ω.....001	10 Ω.....100	1 kΩ.....102	100 kΩ.....104
0.5 Ω.....005	18 Ω.....180	2.7 kΩ.....272	680 kΩ.....684
1 Ω.....010	100 Ω.....101	10 kΩ.....103	1 MΩ.....105
6.8 Ω.....068	390 Ω.....391	22 kΩ.....223	4.7 MΩ.....475

ABBREVIATION AND MARKS

1	ANT.	: ANTENNA	2	BATT.	: BATTERY
3	CAP.	: CAPACITOR	4	CER.	: CERAMIC
5	CONN.	: CONNECTING	6	DIG.	: DIGITAL
7	HP	: HEADPHONE	8	MIC.	: MICROPHONE
9	µ–PRO	: MICROPROCESSOR	10	REC.	: RECORDING
11	RES.	: RESISTOR	12	SPK	: SPEAKER
13	SW	: SWITCH	14	TRANSF.	: TRANSFORMER
15	TRIM.	: TRIMMING	16	TRS.	: TRANSISTOR
17	VAR.	: VARIABLE	18	X'TAL	: CRYSTAL
19			20		
21			22		
23			24		
25			26		
27			28		
29			30		

NOTE ON SAFETY :

Symbol ⚠ Fire or electrical shock hazard. Only original parts should be used to replace any part marked with symbol ⚠ . Any other component substitution (other than original type), may increase risk of fire or electrical shock hazard.

安全上の注意：

⚠ がついている部品は、安全上重要な部品です。必ず指定されている部品番号の部品を使用して下さい。

SM950107KI

[VERS. :VERSION, U:U.S.A, F:Japan, K:Far East, /XX:Europe]

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
			PH16–POWER SWITCH CIRCUIT BOARD	
			PH16-CAPACITORS	
GH01	/01/02,K	4822 122 33276	CER. 0.01 µF 0+100% 400V	DK17103840
GH01	F,DF	4822 121 43732	FILM 0.01 µF ±20% 250V AC	DF77103500
			PH16-MISCELLANEOUS	
JH05	/01, K	4822 277 21825	SLIDE SWITHC, SDKGA4	SS02021510
LH02	/02		FERRITE CORE, TFCK-16-8-13	FC50160030
⚠SH01		4822 276 13364	PUSH SWITCH, TV-3	SP01011990
			PP16–AUDIO/POWER CIRCUIT BOARD	
			PP16– CAPACITORS	
CD01				
§		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
CD08				
CD09		4822 124 81234	TANTL. 220 µF 6.3V CHIP	EY22700690
CD10		4822 124 81234	TANTL. 220 µF 6.3V CHIP	EY22700690
CD11		4822 123 30363	MICA 820 PF ± 5% 100WV CHIP	DF95821510
CD12		4822 123 30363	MICA 820 PF ± 5% 100WV CHIP	DF95821510
CD13				
§		4822 123 30359	MICA 820 PF ± 5% 100WV CHIP	DF95821510
CD16				
CD21		4822 124 11432	TANTL. 100 µF 10V CHIP	EY10701020
CD22		4822 124 11432	TANTL. 100 µF 10V CHIP	EY10701020
CD23				
§		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
CD26				
CF52		4822 126 11687	CER. 0.022 µF +80%-20% 16V CHIP	DK98104200
CH01		4822 123 30422	MICA 33 PF ± 5% 500WV CHIP	DF95330500
CH02		4822 123 30422	MICA 33 PF ± 5% 500WV CHIP	DF95330500
CN02		4822 124 41543	ELECT. 1 µF 50V	OA10505020
CN03		4822 124 90357	ELECT. 2.2 µF 50V	OA22505020
CN06		4822 124 22722	ELECT. 1 000 µF 16V	OA10801620
CT01		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
CT02		4822 126 11685	CER. 4700 PF ± 10% 50V CHIP	DK96472300
CT03		4822 126 11566	CER. 2200 PF ± 10% CHIP	DK96222300
CT04		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
CT07	DF	4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
CY61		4822 124 90355	ELECT. 100 µF 50V	OA10705020
CY62		4822 124 90355	ELECT. 100 µF 50V	OA10705020
CY63		4822 124 41536	ELECT. 100 µF 35V	OA10703520
C100				
§		4822 126 11682	CER. 220 PF ± 10% CHIP	DK96221300
C105				
C107		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C108		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C109		4822 126 11567	CER. 0.022 µF ± 10% 16V CHIP	DK96223200
C110		4822 122 33777	CER. 47 PF ± 5% 50V CHIP	DD95470300
C111		4822 122 33757	CER. 18 PF ± 5% CHIP	DD95180300
C112		4822 122 33757	CER. 18 PF ± 5% CHIP	DD95180300
C113		4822 122 33744	CER. 100 PF ± 5% 50V CHIP	DD95101300
C114		4822 124 41539	ELECT. 47 µF 16V	OA47601620
C115				
§		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C119				
C120		4822 124 41539	ELECT. 47 µF 16V	OA47601620
C121		4822 126 11687	CER. 0.1 µF +80%-20% CHIP	DK98104200
C122		4822 126 11704	CER. 0.022 µF +80%-20% 16V CHIP	DK98223300
C123		5322 126 11578	CER. 1000 PF ± 10% 50V CHIP	DK96102300
C124		4822 126 11687	CER. 0.1 µF +80%-20% CHIP	DK98104200
C125		5322 126 11578	CER. 1000 PF ± 10% 50V CHIP	DK96102300
C126		4822 124 11074	TANTL. 10 µF 16V CHIP	EY10601620
C127		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C128		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C131		4822 126 11567	CER. 0.022 µF ± 10% 16V CHIP	DK96223200
C150		4822 126 11687	CER. 0.1 µF +80%-20% CHIP	DK98104200
C151				
§		4822 126 11567	CER. 0.022 µF ± 10% CHIP	DK96223200
C154				

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
C155		4822 124 41539	ELECT. 47 µF 16V	OA47601620
C156		4822 124 41539	ELECT. 47 µF 16V	OA47601620
C157				
§		4822 126 11687	CER. 0.1 µF +80%-20% CHIP	DK98104200
C159				
C301	DF	4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C302	DF	4822 126 11687	CER. 0.1 µF +80%-20% 16V CHIP	DK98104200
C303	DF	4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C304	DF	4822 126 11687	CER. 0.1 µF +80%-20% 16V CHIP	DK98104200
C305	DF	4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C312	DF	4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C314	DF	4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C315	DF	4822 126 12061	CER. 0.033 µF ± 10% CHIP	DK96333200
C316	DF	4822 126 12061	CER. 0.33 µF ± 10% 16V CHIP	DK56334200
C317	DF	4822 124 90357	ELECT. 2.2 µF 50V	OA22505020
C501		4822 122 32669	CER. 0.047 µF +80%-20% CHIP	DK58473300
C502		4822 122 32669	CER. 0.047 µF +80%-20% CHIP	DK58473300
C503		4822 126 11687	CER. 0.1 µF +80%-20% CHIP	DK98104200
C505		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C506	/01/02, K,F	4822 124 41539	ELECT. 47 µF 16V	OA47601620
C506	DF	4822 124 22694	ELECT. 1000 µF 6.3V	OA10800620
C507		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C508		4822 122 40589	CER. 0.47 µF ± 20%	DA17473110
C601		4822 123 30361	MICA 56 PF ± 5% 500WV CHIP	DF95560500
C602		4822 123 30361	MICA 56 PF ± 5% 500WV CHIP	DF95560500
C603		4822 123 30387	MICA 2200 PF ± 5% CHIP	DF95222030
C604		4822 123 30387	MICA 2200 PF ± 5% CHIP	DF95222030
C605		4822 123 30362	MICA 560 PF ± 5% 100WV CHIP	DF95561510
C606		4822 123 30362	MICA 560 PF ± 5% 100WV CHIP	DF95561510
C607				
§		4822 124 22238	ELECT. 100 µF 25V	OA10702550
C610				
C611				
§		4822 126 12061	CER. 0.1 µF ± 10% 25V CHIP	DK56104200
C614				
C617		4822 124 81317	ELECT. 100 µF 16V	EQ107016Q0
C618		4822 124 81317	ELECT. 100 µF 16V	EQ107016Q0
C621				
§		4822 124 22277	ELECT. 470 µF 16V	OA47701620
C624				
C625		4822 122 33744	CER. 100 PF ± 5% 50V CHIP	DD95101300
C626		4822 122 33744	CER. 100 PF ± 5% 50V CHIP	DD95101300
C633			JUMPER WIRE 5MM	75060501P0
C634			JUMPER WIRE 5MM	75060501P0
C802		4822 124 23782	ELECT. 3300 µF 16V	OC33801620
C803	/01/02,K,F	4822 124 90364	ELECT. 220 µF 16V	OA22701620
C803	DF	4822 124 22694	ELECT. 1000 µF 6.3V	OA10800620
C806		4822 124 23782	ELECT. 3300 µF 16V	OC33801620
C807		4822 124 90364	ELECT. 220 µF 16V	OA22701620
C833		4822 124 41539	ELECT. 47 µF 16V	OA47601620
C834		4822 124 41539	ELECT. 47 µF 16V	OA47601620
C835		4822 124 22238	ELECT. 100 µF 25V	OA10702550
C836		4822 124 22238	ELECT. 100 µF 25V	OA10702550
C853		4822 124 81318	ELECT. 3300 µF 25V	OB33802510
C854		4822 124 81318	ELECT. 3300 µF 25V	OB33802510
C855		4822 124 41535	ELECT. 100 µF 25V	OA10702520
C856		4822 124 41535	ELECT. 100 µF 25V	OA10702520
C857		4822 124 22277	ELECT. 470 µF 16V	OA47701620
C858		4822 124 22277	ELECT. 470 µF 16V	OA47701620
			PP16-RESISTORS	
⚠RD01				
§		4822 117 10145	FUSE 3.3 Ω ± 5% 1/0W	NH85033110
⚠RD04				
RD05		4822 116 83253	CHIP 1.5K Ω ± 1% 1/0W	NI01152110
RD06		4822 116 83253	CHIP 1.5K Ω ± 1% 1/0W	NI01152110
RD07		4822 116 83255	CHIP 3.3K Ω ± 1% 1/0W	NI01332110
RD08		4822 116 83255	CHIP 3.3K Ω ± 1% 1/0W	NI01332110
RD09		4822 116 83352	CHIP 560 Ω ± 5% 1/0W	NI05561110
RD10		4822 116 83352	CHIP 560 Ω ± 5% 1/0W	NI05561110
RD11		4822 116 83255	CHIP 3.3K Ω ± 1% 1/0W	NI01332110
RD12		4822 116 83255	CHIP 3.3K Ω ± 1% 1/0W	NI01332110
RD13				
§		4822 117 11976	CHIP 13K Ω ± 1% 1/0W	NI01133110
RD16				

[VERS. :VERSION, U:U.S.A, F:Japan, K:Far East, /XX:Europe]

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
⚠RD21		4822 117 10145	FUSE 3.3 Ω ±5% 1/10W	NH85033110
⚠RD22		4822 117 10145	FUSE 3.3 Ω ±5% 1/10W	NH85033110
⚠RD25		4822 117 10145	FUSE 3.3 Ω ±5% 1/10W	NH85033110
RF51		4822 051 30229	CHIP 22 Ω ±5% 1/16W	NN05220610
RH01				
≶		4822 116 90503	CHIP 150 Ω ±5% 1/10W	NI05151110
RH06				
RH07		4822 116 83352	CHIP 560 Ω ±5% 1/10W	NI05561110
RH08		4822 116 83352	CHIP 560 Ω ±5% 1/10W	NI05561110
RH09				
≶		4822 111 90893	CHIP 100 Ω ±5% 1/10W	NI05101110
RH12				
RH13			CHIP 33K Ω ±1% 1/10W	NI01333110
RH14			CHIP 33K Ω ±1% 1/10W	NI01333110
RH15		4822 116 83352	CHIP 560 Ω ±5% 1/10W	NI05561110
RH16		4822 116 83352	CHIP 560 Ω ±5% 1/10W	NI05561110
RH17		4822 111 90893	CHIP 100 Ω ±5% 1/10W	NI05101110
RH18		4822 111 90893	CHIP 100 Ω ±5% 1/10W	NI05101110
⚠RH19				
≶		4822 115 90198	FUSE 33 Ω ±2% 1/4W	NF02330140
⚠RH22				
RN02		4822 117 11977	CHIP 3.9K Ω ±5% 1/16W	NN05395610
RN03		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
RN04		4822 051 30473	CHIP 47K Ω ±5% 1/16W	NN05473610
RN05		4822 051 30103	CHIP 10K Ω ±5% 1/16W	NN05103610
RN07		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
RN08		4822 051 30473	CHIP 47K Ω ±5% 1/16W	NN05473610
RN09		4822 051 30104	CHIP 100K Ω ±5% 1/16W	NN05104610
RN10		4822 051 30103	CHIP 10K Ω ±5% 1/16W	NN05103610
⚠RN11		4822 116 60309	FUSE 2.2 Ω ±5% 1/4W	NH05022140
RN12		4822 051 30472	CHIP 4.7K Ω ±5% 1/16W	NN05472610
RN15				
≶		4822 051 30222	CHIP 2.2K Ω ±5% 1/16W	NN05222610
RN18				
RT01		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610
RT02		4822 051 30339	CHIP 33 Ω ±5% 1/16W	NN05330610
RT04		4822 051 30759	CHIP	NN05750610
RY51		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
RY52		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
RY53				
≶		4822 051 30473	CHIP 47K Ω ±5% 1/16W	NN05473610
RY55				
RY56		4822 051 30103	CHIP 10K Ω ±5% 1/16W	NN05103610
R100		4822 051 30103	CHIP 10K Ω ±5% 1/16W	NN05103610
R101		4822 051 30103	CHIP 10K Ω ±5% 1/16W	NN05103610
R105		4822 051 30102	CHIP 1K Ω ±5% 1/16W	NN05102610
R106		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
R107		4822 051 30274	CHIP 270K Ω ±5% 1/16W	NN05274610
R108		4822 051 30334	CHIP 330K Ω ±5% 1/16W	NN05334610
R109		4822 051 30331	CHIP 330 Ω ±5% 1/16W	NN05331610
R110		4822 051 30479	CHIP 47 Ω ±5% 1/16W	NN05470610
R111				
≶		4822 116 83208	CHIP 12K Ω ±5% 1/16W	NN05123610
R113				
R114		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610
R115		4822 116 83208	CHIP 12K Ω ±5% 1/16W	NN05123610
R116		4822 116 83208	CHIP 12K Ω ±5% 1/16W	NN05123610
⚠R117		4822 111 90967	FUSE 4.7 Ω ±5% 1/4W	NF05047140
⚠R118		4822 111 90967	FUSE 4.7 Ω ±5% 1/4W	NF05047140
R119		4822 051 30471	CHIP 470 Ω ±5% 1/16W	NN05471610
R120		4822 051 30104	CHIP 100K Ω ±5% 1/16W	NN05104610
R124		4822 051 30471	CHIP 470 Ω ±5% 1/16W	NN05471610
R125		4822 051 30102	CHIP 1K Ω ±5% 1/16W	NN05102610
R126		4822 051 30102	CHIP 1K Ω ±5% 1/16W	NN05102610
R127		4822 051 30471	CHIP 470 Ω ±5% 1/16W	NN05471610
R128		4822 051 30391	CHIP 390 Ω ±5% 1/16W	NN05391610
⚠R130		4822 111 90967	FUSE 4.7 Ω ±5% 1/4W	NF05047140
R131		4822 051 30471	CHIP 470 Ω ±5% 1/16W	NN05471610
R132		4822 116 83208	CHIP 12K Ω ±5% 1/16W	NN05123610
R133		4822 051 30221	CHIP 220 Ω ±5% 1/16W	NN05221610
R134		4822 051 30102	CHIP 1K Ω ±5% 1/16W	NN05102610
R135		4822 051 30682	CHIP 6.8K Ω ±5% 1/16W	NN05682610
R136		4822 051 30682	CHIP 6.8K Ω ±5% 1/16W	NN05682610
R137		4822 051 30682	CHIP 6.8K Ω ±5% 1/16W	NN05682610

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
R141				
≶		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
R144				
R146		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
R304		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
R305		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
R306		4822 051 30104	CHIP 100K Ω ±5% 1/16W	NN05104610
R307		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610
R308		4822 051 30223	CHIP 22K Ω ±5% 1/16W	NN05223610
R311		4822 051 30471	CHIP 470 Ω ±5% 1/16W	NN05471610
R313				
≶		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610
R315				
R316		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610
R318		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610
R320		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610
R322		4822 111 90967	FUSE 4.7 Ω ±5% 1/4W	NF05047140
R324				
≶		4822 116 82487	CHIP 0 Ω ±5% 1/16W	NN05000610
R327				
R501				
≶		4822 051 30101	CHIP 100 Ω ±5% 1/16W	NN05101610
R506				
R508		4822 051 30105	CHIP 1M Ω ±5% 1/16W	NN05105610
R601		4822 117 11978	CHIP 10K Ω ±5% 1/2W	RI05103120
R602		4822 117 11978	CHIP 10K Ω ±5% 1/2W	RI05103120
R603		4822 117 11981	CHIP 3.3K Ω ±5% 1/2W	RI05332120
R604		4822 117 11981	CHIP 3.3K Ω ±5% 1/2W	RI05332120
R605		4822 117 11982	CHIP 3.9K Ω ±5% 1/2W	RI05392120
R606		4822 117 11982	CHIP 3.9K Ω ±5% 1/2W	RI05392120
R607			CHIP 12K Ω ±5% 1/2W	RI05123120
R608			CHIP 12K Ω ±5% 1/2W	RI05123120
R611				
≶		4822 117 10183	CHIP 2.6K Ω ±1% 1/10W	NI01262110
R614				
⚠R615				
≶		4822 117 10145	FUSE 3.3 Ω ±5% 1/10W	NH85033110
⚠R618				
R619		4822 111 90892	CHIP 0 Ω ±5% 1/10W	NI05000110
R620		4822 111 90892	CHIP 0 Ω ±5% 1/10W	NI05000110
R621				
≶		4822 111 90967	FUSE 4.7 Ω ±5% 1/4W	NF05047140
R624				
R625		4822 111 90895	CHIP 10 KΩ ±5% 1/10W	NI05103110
R626		4822 111 90895	CHIP 10 KΩ ±5% 1/10W	NI05103110
R627				
≶		4822 111 90893	CHIP 100 Ω ±5% 1/10W	NI05101110
R630				
R631		4822 111 90896	CHIP 100K Ω ±5% 1/10W	NI05104110
R632		4822 111 90896	CHIP 100K Ω ±5% 1/10W	NI05104110
⚠R835		4822 111 90967	FUSE 4.7 Ω ±5% 1/4W	NF05047140
⚠R836		4822 111 90967	FUSE 4.7 Ω ±5% 1/4W	NF05047140
⚠R857		4822 116 60309	FUSE 2.2 Ω ±5% 1/4W	NH05022140
⚠R858		4822 116 60309	FUSE 2.2 Ω ±5% 1/4W	NH05022140
R***			**PP16-RESISTORS(COMMON)** CARBON FILM FIXED RESISTOR, ±5% 1/6W: RN01,RN06,RY57,RY58,R833,R834 R855,R856	
			PP16-SEMICONDUCTORS	
DH01		4822 130 81148	DIODE, IMN10 CHIP	HZ20007210
≶				
DH04				
⚠DN01				
≶		4822 130 80839	DIODE,S5688G 1A VRM=400V	HD20029050
⚠DN08				
DN09		4822 130 33948	ZENER DIODE, 5.6V 04AZ5.6,MTZJ5.6B,RD5.6ES	HD30561000
DN10		4822 130 32362	DIODE, 1SS176,MA165, 1SS254 30V 0.1A	HD20002000
DN11		4822 130 32362	DIODE, ISS176,MA165, ISS254 30V 0.1A	HD20002000
DY11		4822 130 33759	ZENER DIODE, 4.7V 04AZ4.7,MTZJ4.7B,RD4.7ES	HD30471000

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POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
▲DY61				
⚡		4822 130 80839	DIODE, S5688G 1A VRM=400V	HD20029050
▲DY63				
DY64		4822 130 80318	ZENER DIODE, 6.8V 04AZ6.8,MTZJ6.8C,RD6.8ES	HD30681000
D101		4822 130 80523	DIODE, DA204U (ROME)CHIP	HZ20008210
▲D801				
⚡		4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050
▲D808				
D831		4822 130 80318	ZENER DIODE, 6.8V 04AZ6,8,MTZJ6.8C,RD6.8ES	HD30681000
D832		4822 130 80318	ZENER DIODE, 6.8V 04AZ6,8,MTZJ6.8C,RD6.8ES	HD30681000
D833		4822 130 32362	DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000
D834		4822 130 32362	DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000
▲D851				
⚡		4822 130 80839	DIODE, S5688G VRM=400V IO=1A	HD20029050
▲D854				
D855		4822 130 80623	ZENER DIODE, 13V MTZJ13B,04AZ13,RD13ES	HD31301000
D856		4822 130 80623	ZENER DIODE, 13V MTZJ13B,04AZ13,RD13ES	HD31301000
D857		4822 130 32362	DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000
D858		4822 130 32362	DIODE, 1SS176,MA165,1SS254 30V 0.1A	HD20002000
QD01		4822 209 31355	IC, TDA1547	HC10066490
QH01		4822 130 42843	F.E.T. 2SK389 (GR OR BL)	HF203892A0
QH02		4822 130 42843	F.E.T. 2SK389 (GR OR BL)	HF203892A0
QH03		4822 130 61425	TRS. 2SC2873 (Y) CHIP	HX328731B0
QH04		4822 130 61425	TRS. 2SC2873 (Y) CHIP	HX328731B0
QH05				
⚡		4822 130 63928	TRS. 2SA1312 (B) CHIP	HX113121B0
QH08				
QH09		4822 130 63929	TRS. 2SC3324 (B) CHIP	HX333241B0
QH10		4822 130 63929	TRS. 2SC3324 (B) CHIP	HX333241B0
QH11		4822 130 62649	F.E.T. 2SJ74 V	HF100741H0
QH12		4822 130 62649	F.E.T. 2SJ74 V	HF100741H0
QH13		5322 130 41844	F.E.T. 2SK170 V	HF201701H0
QH14		5322 130 41844	F.E.T. 2SK170 V	HF201701H0
QN01		4822 130 63843	DIG.TRS. HN1C01F(G)	BA20015050
QN02		4822 130 63843	DIG.TRS. HN1C01F(G)	BA20015050
QN04		4822 130 60839	DIG.TRS. 2SC2458(Y OR GR)	HT324582B0
QN05		4822 130 60107	TRS, 2SA1048(Y OR GR)	HT110482B0
QN07				
⚡		4822 130 43818	TRS, 2SC2878 (A OR BRANK)	HT328782A0
QN10				
QY11		4822 130 63838	DIG.TRS. HN1A01F(Y OR GR)	BA10011050
QY12		4822 130 60839	TRS, 2SC2458(Y OR GR)	HT324582B0
▲QY61		4822 209 83829	IC, NJM79M18FA -18V 0.5A	HC39518090
Q102		4822 209 91174	IC, CD DECORDER SAA7372GP(CD7)	HC10132490
Q106				
⚡			IC, DUAL DRIVER TDA7073A	HC10137490
Q108				
Q109		4822 130 43954	TRS. 2SD999 CHIP	HX409992A0
Q302		4822 130 63843	DIG.TRS. HN1C01F(G)	BA20015050
Q306		4822 209 90597	IC, TCW125FU	HC10409050
Q307		4822 209 33578	IC, TDA1315(DAIO)	HC10117490
Q501		4822 209 91176	IC, 74HC257F	HC725705R0
Q502		4822 209 32442	IC, TC7WU04F	HC000305K0
Q503		4822 209 91173	IC, DIGITAL FILTER SM5841	HC10012350
Q504		4822 209 31356	IC, BS DAC SAA7350 AGP	HC10096490
Q601		4822 209 91175	IC, NJM 2114	HC10175090
Q602		4822 209 91175	IC, NJM 2114	HC10175090
▲Q801		4822 209 61847	IC, NJM78M05FA5V 0.5A	HC38505090
▲Q802		4822 209 61847	IC, NJM78M05FA5V 0.5A	HC38505090
▲Q831		4822 130 63291	TRS, 2SB1022	HT21022100
▲Q832		4822 130 63292	TRS, 2SD1417	HT41417100
▲Q851		4822 130 63291	TRS, 2SB1022	HT21022100

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
▲Q852		4822 130 63292	TRS, 2SD1417	HT41417100
			PP16-MISCELLANEOUS	
▲F801	/01/02,K	4822 070 38001	FUSE 800MA 250V BS LISTED	FS10080850
▲F801	F,DF		FUSE 1A 250C,UL,CSA,	FS10100350
▲F851	/01/02,K	4822 070 38001	FUSE 800MA 250V BSLISTED	FS10080850
▲F851	F,DF		FUSE 1A 250V UL,CSA,MITI TYPE FBT	FS10100350
▲F852	/01/02,K	4822 070 38001	FUSE 800MA 250V BS LISTED	FS10080850
▲F852	F,DF		FUSE 1A 250V UL,CSA,MITI TYPE FBT	FS10100350
JF01			JACK, 29P FPC/FFC CONNCTOR	YJ06010990
JF03		4822 267 41009	TERMINAL, 2P RCA PIN JACK,	YT02020890
JT01		4822 267 31369	OPT. CONNECTOR GP1F32T	YJ15000090
JT02		4822 290 81638	TERMINAL 1P RCA PIN JACK	YT02010790
JT03		4822 265 31045	TERMINAL RCA P-JACK, W/R GOLD	YT02021080
J101		4822 265 41349	JACK, 12PIN FPC/FFC CONNECTER	YJ07007950
J102			JACK, 21 PIN FPC/FFC CONNCTOR	YJ06011310
J103			JACK, 21 PIN FPC/FFC CONNCTOR	YJ06010910
J301	DF		OPT. CONNECTOR GP1F32R	YJ15000150
J302	DF		OPT. CONNECTOR GP1F32R	YJ15000150
LT01		4822 142 60422	PULSE TRNSF.(TPS247MN-0386AN)	TP41042030
LT03		4822 158 60654	FERRITE CORE BLM31A02 CHIP	FC90030070
LT04		4822 158 60654	FERRITE CORE BLM31A02 CHIP	FC90030070
L102				
⚡		4822 158 60654	FERRITE CORE BLM31A02 CHIP	FC90030070
L104				
L301		4822 158 60654	FERRITE CORE BLM31A02 CHIP	FC90030070
L501		4822 158 60654	FERRITE CORE BLM31A02 CHIP	FC90030070
L502		4822 158 60654	FERRITE CORE BLM31A02 CHIP	FC90030070
L601		4822 157 53873	CHIP INDUCTANCE 100 UH NL322522	LU12104010
L602		4822 157 53873	CHIP INDUCTANCE 100 UH NL322522	LU12104010
L603		4822 158 60654	FERRITE CORE BLM31A02 CHIP	FC90030070
L604		4822 158 60654	FERRITE CORE BLM31A02 CHIP	FC90030070
SF01		4822 277 21559	SLIDE SWITCH, INT/EXT	SS02021150
▲W102			LEAD SUMI CARDE 210MM 21P	YU21100520
X101		4822 242 81999	CRYSTAL 16.9344MHZ SMD-49	JX16001350
			PV16-SERVO CIRCUIT BOARD	
			PV16-RESISTORS	
R121		4822 116 82487	CHIP 0Ω ±5% 1/6W	NN05000610
R122		4822 051 30229	CHIP 22Ω ±5% 1/16W	NN05220610
R123		4822 051 30229	CHIP 22Ω ±5% 1/16W	NN05220610
			PV16-SEMICONDUCTOR	
Q101			IC, SERVO PREAMP TDA1302T	HC10136490
			PY16-FRONT CIRCUIT BOARD	
			PY16-CAPACITORS	
CY01		4822 122 32669	CER. 0.047 µF +80%-20% CHIP	DK58473300
CY02			TANTL. 47 µF 6.3V CHIP	EY47600620
CY04		4822 124 11074	TANTL. 10 µF 16V CHIP	EY10601620
CY05		4822 126 11704	CER. 0.022 µF +80%-20% CHIP	DK98223300
CY06		4822 126 11704	CER. 0.022 µF +80%-20% CHIP	DK98223300
CY07		4822 126 12061	CER. 0.1 µF ±10% 25V CHIP	DK56104200
CY11		4822 126 11687	CER. 0.1 µF +80%-20% CHIP	DK98104200
CY13		4822 124 11331	TANTL 2.2 µF ±1pF 50V. CHIP	EY22505020
			PY16-RESISTORS	
RY05				
⚡		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RY07				
RY08		4822 051 30103	CHIP 10KΩ ±5% 1/16W	NN05103610
RY09		4822 051 30473	CHIP 47KΩ ±5% 1/16W	NN05473610
RY10				
⚡		4822 051 30103	CHIP 10KΩ ±5% 1/16W	NN05103610
RY12				
RY13		4822 051 30101	CHIP 100Ω ±5% 1/16W	NN05101610
RY14		4822 051 30472	CHIP 4.7KΩ ±5% 1/16W	NN05472610
RY18		4822 051 30224	CHIP 220KΩ ±5% 1/16W	NN05224610
RY21				
⚡		4822 051 30104	CHIP 100KΩ ±5% 1/16W	NN05104610
RY28				
RY29		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610

[VERS. :VERSION, U:U.S.A, F:Japan, K:Far East, /XX:Europe]

POS. NO.	VERS. COLOR	PART NO. (For EUROPE)	DESCRIPTION	PART NO. (For U/K/F)
RY31				
∫		4822 051 30473	CHIP 47KΩ ±5% 1/16W	NN05473610
RY33				
RY34				
∫		4822 051 30104	CHIP 100KΩ ±5% 1/16W	NN05104610
RY39				
RY40		4822 051 30105	CHIP 1MΩ ±5% 1/16W	NN05105610
RY41		4822 116 82487	CHIP 0Ω ±5% 1/16W	NN05000610
⚠RY42		4822 117 10145	FUSE 3.3Ω ±5% 1/10W	NH85033110
RY61				
∫		4822 051 30104	CHIP 100KΩ ±5% 1/16W	NN05104610
RY69				
			PY16-SEMICONDUCTORS	
DY01		4822 130 81148	DIODE, IMN10 CHIP	HZ20007210
DY02		4822 130 80523	DIODE, DA204U (ROHM) CHIP	HZ20008210
QY01		4822 130 63843	DIG.TRS. HN1C01F(G)	BA20015050
QY02		4822 130 61311	TRS. 2SA1162 (O OR Y) CHIP	HX111622A0
QY03		4822 290 91177	MICROPROCESSOR MAIN CPU MN187164	HU318KA000
QY04		5322 209 32093	IC, SYSTEM RESET PST529CMT	HC100315500
			PY16-MISCELLANEOUS	
JY01			JACK, 29P FFC CONECTOR 9603S-29F SID	YJ07009310
LY01		4822 158 60654	FERRITE CORE BLM31A02 CHIP INDUCTOR	FC90030070
LY02		4822 158 60654	FERRITE CORE BLM31A02 CHIP INDUCTOR	FC90030070
SY01				
∫		4822 276 20508	PUSH SW	SP01011280
SY06				
VY01		4822 130 91287	DISPLAY UNIT,FTD 9MT131GK	HQ30914410
⚠WY01			LEAD,SUMI-CARD 29P/120MM WIRE	YU29120530
XY01		4822 242 80348	CER.VIB.8MHZ EF0V8004	FQ08004030
ZY01		4822 130 83519	PHOTO UNIT RPM-670CBR	HW10001210
			PY26-DIGITAL INPUT CIRCUIT BOARD	
			PY26-CAPACITOR	
C304		4822 126 11687	CERAMIC 0.1μ16V CHIP	DK98104200